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ENVIRONMENTAL ASSESSMENT BOARD

VOLUME: 278

DATE: Tuesday, January 15, 1991

BEFORE:

A. KOVEN

Chairman

E. MARTEL

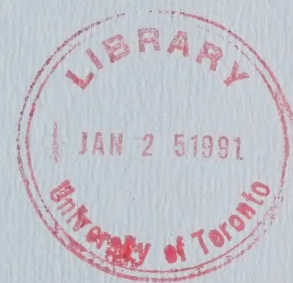
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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental
Assessment for Timber Management on Crown
Lands in Ontario;

- and -

IN THE MATTER OF a Notice by the
Honourable Jim Bradley, Minister of the
Environment, requiring the Environmental
Assessment Board to hold a hearing with
respect to a Class Environmental
Assessment (No. NR-AA-30) of an
undertaking by the Ministry of Natural
Resources for the activity of timber
management on Crown Lands in Ontario.

Hearing held at the offices of the Ontario
Highway Transport Commission, Britannica
Building, 151 Bloor Street West, 10th Floor,
Toronto, Ontario, on Tuesday, January 15,
1991, commencing at 9:00 a.m.

VOLUME 278

BEFORE:

MRS. ANNE KOVEN
MR. ELIE MARTEL

Chairman
Member



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I N D E X O F P R O C E E D I N G S

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<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1653	Ministry of the Environment's terms and conditions, dated September 28th, 1990.	49900
1654	MOE interrogatory question Nos. 1-19 and answers thereto consisting of 38 pages.	49901
1655	Two-page document consisting of MNR Interrogatory Nos. 9 and 52 and OFIA Interrogatory No. 16.	50005

1 ---Upon commencing at 9:00 a.m.

2 MADAM CHAIR: Good morning. Please be
3 seated.

4 Mr. Cassidy.

5 MR. CASSIDY: Good morning, Madam Chair,
6 Mr. Benson.

7 CRANDALL BENSON; Resumed

8 CONTINUED CROSS-EXAMINATION BY MR. CASSIDY:

9 Q. Mr. Benson, I would like to take you
10 to the transcript excerpt that I provided you with
11 earlier and it relates to your comments on page 109
12 which we were discussing yesterday, page 109 of your
13 witness statement.

14 Madam Chair, you may not have the
15 transcript excerpt readily at hand, but I am going to
16 be reading some portions of it because I want to assist
17 Mr. Benson. It is in Volume 200 of the transcript and
18 it commences at page 35,402.

19 Q. Do you have that, Mr. Benson?

20 A. 402?

21 Q. Correct. And your counsel, Ms.
22 Swenarchuk, at the bottom of the page asked Mr.
23 Squires, who is sitting to my right:

24 "What proportion of the area is being
25 regenerated with artificial maintenance?"

1 Do you see that commencing at line 19
2 there?

3 MS. SWENARCHUK: That was probably
4 artificial methods.

5 MR. CASSIDY: Q. Do see that, Mr.
6 Benson?

7 A. Yes, I do.

8 Q. Mr. Squires said he would have to
9 give an approximate estimate for the Board and he went
10 on to explain on the next page on 403 -- and if I am
11 going too fast you stop me.

12 He went on to explain on page 35,403 that
13 it varies from year to year over a five-year period
14 comparing one five-year period to another, but he went
15 on to state that:

16 "Artificial regeneration goes -- varied
17 up and down between 35 to 45 per cent on
18 the Spruce River Forest."

19 And then if you move to the bottom of
20 page 35,403, Mr. Benson, commencing at line 25:

21 "What proportion of that natural
22 regeneration results from block or strip
23 cutting?"

24 That was the question that Ms. Swenarchuk
25 asked Mr. Squires. He said:

1 "I'm afraid to hazard a guess."

2 The question was:

3 "Is there any being done?'

4 I am now at the page of 35,404, and he
5 said:

6 "Yes, there is some."

7 Ms. Swenarchuk said:

8 "Can you give some indication of what
9 percentage of block or strip cutting is
10 being done on the Spruce River Forest?"

11 He said:

12 "In the vicinity of between 1 or 2 per
13 cent."

14 Then Ms. Swenarchuk moved to Mr. Ferguson
15 and asked him the similar question, and if we move over
16 to page 35,407, Ms. Swenarchuk asked the same question:

17 "Can you give us an approximation of the
18 amount of the harvested area on which
19 strip and block cutting is being used?"

20 I am reading from the very bottom of
21 35,406 and the very top of 35,407. And the answer was:

22 "Strip and block cutting -- strip cutting
23 is such I would say is a very minimal
24 proportion. We have found that much more
25 effective in our part of the world in

1 doing our seed tree plots which tend to
2 achieve the same result."

3 Now, I want to -- first of all, had you
4 had a chance to review that transcript before you wrote
5 your witness statement?

6 A. Did I have a chance to? I suppose I
7 had a chance to read them all and review it, yes, but I
8 didn't.

9 Q. You didn't read this one?

10 A. No. I read some of them, but
11 certainly not all of them.

12 Q. You did not read this transcript?

13 A. This one, no.

14 Q. All right. As you can see commencing
15 on page 35,402, Ms. Swenarchuk was cross-examining in
16 respect of the chart on page 124 which is the chart
17 that you referred to in your statement on page 109 with
18 your reference No. 198 after the words --

19 MR. MARTEL: What page is that?

20 MR. CASSIDY: 109.

21 Q. Now, dealing with that statement,
22 sir, were you aware, with respect to the chart as
23 referred to on page 124 of the Panel 8 witness
24 statement, when you wrote that statement that:

25 "Natural regeneration methods that have

1 applied on FMAs have worked", were you
2 aware of the evidence of these witnesses that, in fact,
3 that natural regeneration took place with minimal
4 involvement of strip or block cutting?

5 A. I was referring -- there is a table
6 on page 124 but, no, I presumed when I looked at that
7 table and used it that it was as a result of all forms
8 of natural regeneration, be it strip, seed tree and
9 clearcut.

10 Q. Then I suggest to you, sir, that your
11 statement in respect of that on page 109 should be read
12 in light of the evidence on page -- the transcripts I
13 just referred to you. Would you agree with that?

14 A. No, I think the proper procedure
15 would be to delete that particular reference.

16 Q. Oh, I see. So now you are not
17 relying on that?

18 A. I'm sorry?

19 Q. Now you are not relying on the
20 reference on page 109 to the Table 3 on page 124?

21 A. Oh, I'm sorry, okay. I'm mixed up
22 here.

23 Q. Take your time.

24 A. You are suggesting that I change that
25 to...

1 Q. What I am suggesting ultimately, sir,
2 and I will get right to it, is that the evidence that
3 you have referred to in that cite 189 and it's
4 statement:

5 "Natural regeneration methods that have
6 been applied on FMAs have worked", is in
7 reference to natural regeneration that occurred on
8 large size clearcuts, and what I am suggesting, as is
9 demonstrated in this transcript, what I am suggesting
10 is that that is in fact evidence to the contrary of
11 your suggestion that natural regeneration will only
12 work in smaller clearcuts?

13 A. I'm not saying and I haven't
14 contended that it would work only in smaller clearcuts.

15 I think you've had the misconception
16 throughout that I'm saying that if an area is cut it
17 won't regenerate. It will regenerate and --

18 Q. You've have made --

19 MS. SWENARCHUK: Excuse me, Mr. Cassidy.

20 MR. CASSIDY: Q. Sorry. Are you
21 finished, sir?

22 A. No.

23 Q. Go ahead.

24 A. A large clearcut can regenerate. My
25 contention is that with the smaller clearcut, if you

1 are leaving seed trees of the desired species by it,
2 your chances of getting the desired species, they are
3 more favourable than if you have a larger clearcut.

4 Certainly I don't contend that you get
5 nothing on a clearcut area. My contention is that it
6 should be more favourable the smaller the cut size
7 within certain limits.

8 Q. Mr. Benson, would you agree that when
9 you look at Table 124 and when you wrote the statement
10 that:

11 "Natural regeneration methods that have
12 been applied on FMAs have worked", when
13 you wrote that statement on page 109 that, in fact, you
14 were reviewing the evidence on page 124 favourably as
15 indicating success of natural regeneration on FMAs?

16 A. Yes, I am indicating that those
17 particular methods did get successful regeneration on
18 them.

19 Q. And as a result, sir, would you agree
20 that natural regeneration does work on large clearcuts
21 based on the success rates contained in Table 3 on page
22 124?

23 A. For those particular areas it would.

24 Q. Yes, the 16 FMA areas.

25 A. It would appear so, but my contention

1 again would be that it also pointed out that the
2 natural regeneration results were less than the
3 artificial ones.

4 Q. Yes.

5 A. I would think your chances for
6 getting better natural regeneration using techniques
7 designed more favourable to natural regeneration might
8 give you higher results.

9 Q. That's speculation; right?

10 A. It's partly speculation and partly
11 based on observation and, as I said earlier, some day
12 in the past that natural regeneration, to me anyway, is
13 more difficult than artificial regeneration in many
14 ways and it really requires a forester with a good
15 knowledge of his forest to get the best natural
16 regeneration methods for his particular area.

17 I think I said that when we were talking
18 about the terms and conditions.

19 Q. If I could move on then to --

20 A. There is one point that confuses me
21 on this table, though, and I don't know if you can
22 clarify it.

23 If the natural regenerated areas here are
24 the same as -- these are basically clearcut natural
25 regeneration areas, at least they are in the Spruce

1 Falls or Spruce River management unit, would they come
2 under the clearcut area then in the stats for Ontario?

3 Q. Sir, I am not in a position to give
4 evidence.

5 A. 'Cause why it's confusing to me and
6 perhaps it's -- on my Table G4 on page 265 where I
7 summarize the regeneration taken from the annual
8 reports, it didn't have in those annual reports the
9 clearcut regeneration method to any appreciable amount.

10 Q. You are talking about the Ministry
11 annual report?

12 A. That's right.

13 Q. Can we move on, Mr. Benson, or are
14 you finished?

15 MS. SWENARCHUK: No, he is not finished,
16 Mr. Cassidy.

17 THE WITNESS: I am not clear then as to
18 what regeneration status is or how it is reported.

19 Maybe if I just look at one of the annual
20 reports I will work backwards, if you like, and these
21 are Table 6.4.1, Annual Report of Renewal and
22 Maintenance for the Spruce River Forest, March 1st, '88
23 to March 31st, '89.

24 MADAM CHAIR: Excuse me. What are you
25 looking at Mr. Benson?

1 THE WITNESS: It's part of the Annual
2 Report for the Spruce River Forest, Table 6.4.1.

3 In that table under Even Aged Management,
4 Natural Regeneration, it only lists 46 hectares for
5 spruce and it appears to be under strip cut or seed
6 tree cut and under the column to date for spruce it
7 lists 216 hectares. That would be from 1985.

8 So the subtotal natural regeneration
9 listed in for the management unit is -- to date is 216
10 hectares and that is the only natural regeneration that
11 is listed there.

12 The table that you -- the excerpt that
13 you gave me here says that 65 per cent is in one form
14 of natural regeneration approximately and it doesn't
15 match. 65 per cent would be much higher than 46
16 hectares. So I have trouble understanding just where
17 these figures come from if they are not reported in the
18 annual reports. There's some contradiction.

19 Q. That's fine. All right. Done?

20 A. Yes.

21 Q. If we could move on to Roman Numeral
22 page 5 of your witness statement. That's Volume I,
23 Exhibit 1604A.

24 Item 7 there, you state that:

25 "The smaller cuts of modified harvesting

1 can reduce and ameliorate the site damage
2 more than larger clearcuts."

3 I would like to refer you to Volume 261
4 of the transcript which you should have.

5 MS. SWENARCHUK: 261?

6 MR. CASSIDY: 261.

7 MADAM CHAIR: Which page, Mr. Cassidy?

8 MR. CASSIDY: If you will just bear with
9 me for a second.

10 Madam Chair, I would like to come back to
11 that after the break and deal with that matter. There
12 may be a problem with that volume number in which case
13 I will get it for you after the break.

14 It is a very short cite from the
15 transcript and I want to have the opportunity to break
16 and make sure I have got the right one to give to Mr.
17 Marek -- Mr. Benson. It is in relation to Mr. Marek's
18 evidence, but I will come back to that.

19 If I could move on to deal with some
20 interrogatories that were answers filed by Forests for
21 Tomorrow, and I have a copy of the three that I will be
22 filing, Madam Chair, all on one page. They are OFIA
23 and, as it then was, OLMA interrogatories No. 4, 5 and
24 6 for this panel and since they all fit one page I
25 suggest we file them just as one exhibit.

1 MADAM CHAIR: That will Exhibit 1651.

2 MS. SWENARCHUK: Excuse me, Madam Chair,
3 what was 1650?

4 MADAM CHAIR: I have got the September
5 19th, 1990 Report on Funding Mechanisms for
6 Silviculture by the Working Group. It was a position
7 paper.

8 MS. SWENARCHUK: Thank you.

9 MR. CASSIDY: Yes.

10 ---EXHIBIT NO. 1651: OFIA/OLMA interrogatory question
11 Nos. 4, 5 and 6 and answers
thereto.

12 MR. CASSIDY: Q. Now, dealing first of
13 all with interrogatory No. 4, which is on Exhibit 1651,
14 you were asked, Mr. Benson, in respect of your
15 statement at page 11 of the witness statement -- the
16 statement you made that:

17 "A weighted area method of determining
18 the allowable cut may be used to reduce
19 the amount of overmature timber, but it
20 is usually applied to ensure that the
21 timber production does not fall below the
22 production of a regulated forest."

23 That was your statement on page 11, and
24 the question was:

25 "Is the witness aware of any current

1 timber management plans that state that
2 OWOSFOP is used for this purpose. If so,
3 please identify those plans."

4 Your answer was:

5 "To my knowledge no plan recognizes the
6 deficiency of this method?

7 Is it your evidence then -- and I don't
8 understand quite frankly this answer. Is it your
9 evidence that there is no plan that uses the OWOSFOP
10 weighted area method to ensure that the timber
11 production does not fall below the production of a
12 regulated forest?

13 A. No, what I'm saying there is the
14 weighted area method, of which OWOSFOP is one, is
15 usually applied to ensure that the timber production
16 does fall below the production of a regulated forest;
17 in other words, it is only applied for a short period
18 of time rather than for a whole rotation.

19 So you could apply it five years for a
20 20-year period perhaps and then you would change to a
21 different method of calculating the rotation.

22 But the way OWOSFOP is used, it is
23 determined for a whole rotation and what I'm saying
24 then is that in the plans I have examined I recognized
25 the deficiencies of OWOSFOP, the fact that it is a

1 weighted area method and it is more appropriately used
2 if you want to, in certain circumstances, reduce the
3 overmature timber initially in a management unit.

4 Q. I see. Are you aware that on the
5 Gordon Cosens Forest the new timber management plan for
6 the 1990 to year 2010 is using the FORMAN model?

7 A. I was aware that they were working
8 with it. I didn't know whether it had been
9 incorporated into the plan or not. It wasn't in the
10 plan that we obtained and examined.

11 Q. Right. Were you aware that prior
12 1980 the Gordon Cosens Forest did not use the OWOSFOP
13 in its calculation of annual allowable cut and that it
14 used another method?

15 A. Yes, I was aware of that.

16 Q. So given those two parameters then,
17 being OWOSFOP weighted area of method and the Gordon
18 Cosens Forest, it was only used for a 10-year period
19 from 1980 to 1990?

20 A. Yes. I would have to say that's
21 right, but the problem I would have is -- well, I
22 imagine they've realize that now perhaps in that
23 particular unit certainly the option didn't exist the
24 first time around in the management planning process.
25 You had to use OWOSFOP.

1 Now it has changed so that you either
2 OWOSFOP or another method if you justify that other
3 method.

4 Q. When you said the first time around,
5 you meant the 1980 period to 1990?

6 A. There were -- I'm not too sure when
7 the second manual came out. I believe it was the first
8 timber management planning manual that applied really
9 to the first FMAs that came out and it wasn't replaced
10 until the next manual, whatever year that was. I can't
11 recall offhand.

12 Q. My understanding is then that the
13 OWOSFOP was used in the Gordon Cosens Forest from 1980
14 to 1990 to deal with overmature timber. Do you have
15 that same understanding?

16 A. Well, certainly it was also projected
17 ahead for a rotation too using OWOSFOP. It gave the
18 impression that it was going to be used for a longer
19 period of time; in other words, there wasn't any break
20 after 10 years saying that they were going to switch to
21 a different method.

22 Q. But you have not had a chance to
23 review the new planning which indicates they are going
24 to be using FORMAN for 1990 to the year 2010?

25 A. No. The plan I reviewed, though, did

1 not mention FORMAN at that time. It showed the
2 projection ahead using OWOSFOP as one method.

3 They had three projections, I believe. A
4 normal area method and I would have to check on the
5 third one.

6 Q. That was in the 1985 plan; right?

7 A. As far as I know it was, yes.

8 Q. I would like to move to the second
9 interrogatory and that is the second interrogatory on
10 Exhibit 1651 which is, in fact, interrogatory No. 5.

11 The question was:

12 "What is the basis for the statement that
13 in the OWOSFOP calculation rotations are
14 based on regenerating the forest
15 artificially?"

16 The answer was:

17 "In most plans only one rotation age is
18 used for a working group. The rotations
19 are of a length that indicate plantation
20 management. The OWOSFOP calculations do
21 not include the delaye period for
22 natural regeneration."

23 My information, sir, is that Industry FMA
24 foresters routinely factor in delay periods for natural
25 regeneration in their wood supply planning.

1 I take it since you didn't speak to those
2 foresters you weren't aware of that?

3 A. I was examining --

4 MS. SWENARCHUK: Mr. Cassidy is entitled
5 to whatever information he wishes, but before he puts
6 it before the Board as a matter of fact I think we are
7 entitled to know that there is some proof being added.

8 MR. CASSIDY: I will call proof in reply.
9 Subject to it being proved in reply.

10 THE WITNESS: I was examining the
11 management plans and I'm not too sure what particular
12 models you were talking about.

13 I was examining the management plans that
14 were used or required by the Ministry of Natural
15 Resources and in those particular plans they don't
16 break it down into different rotations for a working
17 group that's being regenerated artificially or
18 naturally.

19 I'm not too sure if you are talking of
20 something else outside of the management plan in which
21 case I wouldn't have seen it, no.

22 MR. CASSIDY: Q. Okay.

23 A. But certainly I would say if
24 companies are doing that, then it really should be part
25 of the management plan. It would make it more

1 realistic.

2 Q. Now, let's move to interrogatory No.
3 6 and that's in relation to a statement on page 40 of
4 your witness statement and in the second paragraph in
5 the last sentence on that page --

6 MADAM CHAIR: That's page 40, Mr.
7 Cassidy?

8 MR. CASSIDY: Yes.

9 Q. You stated:
10 "Before designing the new silvicultural
11 assessment procedure the amount and
12 success of renewal operation were
13 available for the province and
14 districts."

15 We asked you what new procedure you were
16 referring to and your answer was:

17 "Silvicultural assessment procedure being
18 developed for implementation for the past
19 number of years."

20 Quite frankly that has totally baffled my
21 client. What procedure are you referring to, sir?

22 A. Okay. I don't know the exact name of
23 it, but earlier on in the whole process when the OMNR
24 was presenting evidence there was questions asked on
25 what is the state of regeneration in our forests, and

1 it came down to at some point in time that they didn't
2 have summaries or records at that particular time
3 because the silvicultural assessment process was being
4 revised and put on computer.

5 I don't know all the details of it, but
6 just that there was a change occurring in the system
7 within the Ministry.

8 Q. So you were referring when you wrote
9 that to some transcripts or excerpts from some
10 transcripts of evidence that you had?

11 A. No, I was at one of the hearing
12 meetings when that came up in Thunder Bay.

13 Q. Not a hearing before this Board?

14 A. A hearing before this Board, right.
15 I cannot recall what -- well, I have no idea what
16 transcript number it would be.

17 See, there was a change. I have seen the
18 new silvicultural cards and reporting system. They
19 have a different system developed from what they had
20 before for reporting on silvicultural projects within
21 the OMNR.

22 My understanding from what occurred there
23 was that they hadn't been computerized yet or finalized
24 yet so they could produce summaries.

25 Q. Mr. Benson, I don't know want you to

1 search through all 47,000 pages of transcript, if it is
2 going to be too difficult, but what I would like is an
3 undertaking, if you would, sir, to review the
4 transcripts in some fashion. If it proves impossible,
5 you can so advise me, and if you can provide me with
6 the evidence or the excerpt or page references to the
7 excerpts of which you are referring to I would
8 appreciate it.

9 As I have indicated, if it proves
10 impossible you can simply advise me, but, quite
11 frankly, I don't know where that evidence is coming
12 from.

13 MADAM CHAIR: Mr. Cassidy, is there a way
14 that we can speed this up a bit? I think both yourself
15 and the Ministry of Natural Resources has a
16 computerized database that can search transcripts very
17 quickly.

18 Is there something about the credibility
19 of Mr. Benson's evidence that you would want him to try
20 to sort this out rather than perhaps requesting that
21 MNR provide -- is it possible for Mr. Benson to sit
22 down with the librarian and somehow find the reference
23 he is talking about?

24 MR. CASSIDY: I don't know. I would
25 assume it would be. I have no idea what his evidence

1 means in the absence of understanding where it comes
2 from and it may --

3 MADAM CHAIR: Mr. Benson is saying it is
4 in the transcript, he heard it in the hearing room. I
5 think the only way we can do this quickly is somehow to
6 get someone who can search the transcripts quickly. -

7 Mr. Freidin?

8 MR. FREIDIN: I am just wondering whether
9 Mr. Benson has any recollection as to which panel it
10 was, which witness it was because the information
11 systems and data collection --

12 THE WITNESS: John Osborn, but he was on
13 several patterns.

14 MADAM CHAIR: Well, that's narrowing it
15 down.

16 MR FREIDIN: After the planning evidence?

17 MADAM CHAIR: Why don't we provide Mr.
18 Benson over the break or over lunch with an outline of
19 MNR -- we have a listing of their witness panels.

20 MR. FREIDIN: Osborn was only on two
21 Panels.

22 MADAM CHAIR: He was only on two panels.
23 Well, that narrows it down a bit.

24 MR. FREIDIN: Panel 3 and Panel 6.

25 MADAM CHAIR: Do you mind, Mr. Cassidy--

1 MR. CASSIDY: No, not at all.

2 MADAM CHAIR: --if we put Mr. Benson in
3 touch perhaps your librarian or your system and help
4 Mr. Benson locate it. It won't happen now during the
5 cross.

6 MR. CASSIDY: No, no, that's fine. All I
7 am interested in is getting an understanding of what
8 part of the transcript he is referring to.

9 I am not going to cross-examine any
10 further, but I just need to know what he is referring
11 to for purposes down the road.

12 MADAM CHAIR: Can we ask Mr. Freidin to
13 cooperate with Mr. Benson and at some point provide
14 that to the hearing, what the transcript number is,
15 please.

16 MR. FREIDIN: As we have in the past, we
17 will do so again.

18 MADAM CHAIR: Thank you very much.

19 MR. CASSIDY: All I would look is
20 confirmation from either Mr. Benson - and I have a
21 feeling he is going to be off the stand before he can
22 do that - or through his counsel that this was the
23 portion of the transcript that he had in mind. That's
24 all I need.

25 MADAM CHAIR: What we have right now is

1 that it was Dr. Osborn's evidence and that was in one
2 of two witness statements.

3 MS. SWENARCHUK: Wouldn't that be
4 sufficient for someone then to do a computerized
5 transcript search, and I would also ask that I be
6 permitted to discuss this with Mr. Benson.

7 MR. CASSIDY: That's nine.

8 MS. SWENARCHUK: If what we are trying to
9 do is provide transcript, then let's do it in a
10 sufficient way and not --

11 MR. CASSIDY: I have no objection
12 whatsoever.

13 THE WITNESS: I have one suggestion, I
14 believe there was a name attached to it.

15 MR. FREIDIN: SIS/SAS. Silvicultural
16 information systems/silvicultural assessment systems.

17 THE WITNESS: Yes, that's it.

18 MR. FREIDIN: That was the subject matter
19 of --

20 MR. CASSIDY: Well, it sounds like we
21 have been able to come up with it thanks to Mr.
22 Freidin's photographic memory.

23 MADAM CHAIR: Thank you, Mr. Freidin.

24 MR. CASSIDY: Thank you, Madam Chair.

25 Q. If I could refer now to page 126 of

1 your witness statement, Exhibit 1604A.

2 MR. FREIDIN: Which page, Mr. Cassidy?

3 MR. CASSIDY: 126.

4 Q. On that page, the first full
5 paragraph, you state:

6 "The introduction of exotic plantation
7 species such as Norway spruce may have
8 a dramatic effect on reducing life forms
9 in an area."

10 Could you explain for me, Mr. Benson, how
11 the addition of a species reduces diversity?

12 A. Because you are changing the -- you
13 are putting a new species in an area and that can
14 affect that particular area and what species can
15 inhabit that area.

16 If it is affecting the species or
17 adversely affecting the species that are there, it
18 would then affect the diversity of life on that
19 particular area.

20 Q. You are adding a species; correct?

21 A. You are adding one, but you may be
22 reducing others.

23 MADAM CHAIR: That can work the other way
24 as well, though, Mr. Benson.

25 THE WITNESS: It could work the other way

1 too, yes, that's true.

2 MR. CASSIDY: Q. Have you had a chance
3 to review the water quality transcripts that I referred
4 you to last night with respect to Mr. Hutchinson's
5 evidence?

6 A. Yes, I have.

7 Q. And do you have any comment on what
8 Mr. Hutchinson was saying there?

9 MADAM CHAIR: Excuse me, which transcript
10 volume is that?

11 MR. CASSIDY: That was in transcript 244,
12 Madam Chair.

13 MADAM CHAIR: Page?

14 MR. CASSIDY: 43,876 and following. I
15 think I referred Mr. Benson up to 44,225.

16 THE WITNESS: I'm sorry. I have 43,876.

17 MR. CASSIDY: Q. Yes and following.

18 A. Okay. I didn't read the following.

19 I just read -- the last one was 44,830?

20 Q. 44,225.

21 MS. SWENARCHUK: That is more than you
22 told him yesterday.

23 MR. CASSIDY: That might be more than I
24 gave you yesterday. You don't have to refer to all of
25 that, you can refer to any portion following 43,876.

1 MS. SWENARCHUK: You gave us two page
2 references yesterday.

3 THE WITNESS: That's what I read, two
4 pages.

5 MR. CASSIDY: That's fine. Whatever, it
6 is all there on those two pages.

7 Q. Do you have any comment on that
8 evidence?

9 A. Well, I presumed from the line of
10 questioning it had to do with the fact that there
11 wasn't any evidence that clearcutting affected water
12 quality as it pertained to drinking water.

13 Q. Do you agree with that?

14 A. Well, I don't know what all the
15 literature would say, but I would think there probably
16 are some cases where it has affected drinking water
17 quality perhaps in a short term, particularly in areas
18 out west if they depended upon their water supply from
19 a river - I am thinking of B.C. - where you had a slide
20 or some such thing as a result of a clearcut on a
21 slope. Well, then it might be some type of effect on
22 water quality.

23 I don't know if it has been documented
24 elsewhere, I haven't really looked for that. The
25 statement I made in my presentation referred to the

1 water quality at Nipigon where there was a slide into
2 the Nipigon River. One of the reasons that was put
3 down for it was because of the harvest. One of the
4 possible reasons.

5 Q. I would like to move on to the
6 evidence you gave in respect of Domtar, the
7 Domtar/Armstrong management unit, and you make note in
8 that evidence about the operators not having maps when
9 they were doing their scarification; right?

10 A. Scarification, right.

11 Q. Are you aware that companies often
12 have briefings in the morning to advise their operators
13 of where they should and should not go when doing their
14 scarification activities during the course of the day?

15 A. I don't think this particular
16 operator had because he told us he was picking the
17 areas himself for scarifying.

18 Q. Are you aware that operators are
19 often told what areas to be avoid?

20 A. Oh, yes. I think they can be told
21 that, yes.

22 Q. For example, they are told to avoid
23 wet area at certain times of the year or told to avoid
24 softer areas at other times of the year?

25 A. I'm aware of that, yes.

1 Q. Are you aware that companies often
2 use ribbons instead of maps to ribbon off areas that
3 are to be avoided?

4 A. Yes, that can be done. I don't
5 believe there were any ribbons in this case because he
6 was selecting the sites.

7 Q. That's fine. Are you aware that
8 companies often have supervisors in the areas
9 monitoring the activities at various times during the
10 day?

11 A. Yes, that's true.

12 Q. You didn't observe any supervisors on
13 this particular location; is that right?

14 A. No, I didn't.

15 Q. You were there the whole day?

16 A. Not in that particular spot, no.

17 Q. How long were you there?

18 A. Talking to the skidder operator we
19 wouldn't have been there longer than 15 minutes I would
20 think, 15 to 20 minutes.

21 Q. Sorry?

22 A. 15 to 20 minutes.

23 Q. I would like to move to some of the
24 photographs that you are dealing with in respect of the
25 Abitibi-Price Spruce River Forest and also an adjacent

1 one I believe m, the Sioux Lookout Forest, and I am
2 going to have to have you put up photo 441 again.

3 MR. LINDGREN: We didn't set up the
4 projector.

5 MR. CASSIDY: For the next series of
6 photographs, Madam Chair, I am going to need the slide
7 projector. It was set up yesterday, I don't know what
8 happened no it.

9 MS. SWENARCHUK: We can break now and put
10 it up.

11 MR. CASSIDY: What I would suggest is we
12 take a short break to get the projector set up, Madam
13 Chair.

14 MADAM CHAIR: That's fine. Ten minutes.

15 ---Recess taken at 9:45 a.m.

16 ---On resuming at 10:00 a.m.

17 MADAM CHAIR: Please be seated.

18 MR. CASSIDY: Thank you, Madam Chair.

19 Now the first slide, let's look at it briefly.

20 MADAM CHAIR: This is photo number...?

21 MR. CASSIDY: 441.

22 Q. You recall, I believe, Mr. Benson,
23 that you were referring to this slide in reference to
24 the oil drum which appears to be in the bottom
25 left-hand corner of the slide; correct?

1 A. Correct.

2 Q. And I understand that this was on or
3 near -- on a reserve near a creek in the Sioux Lookout
4 Crown Management Unit; is that right?

5 A. Correct.

6 Q. Now, are you aware that there are
7 users other than the forest industry that use these
8 roads on Crown management units and on FMAs?

9 A. Myself included.

10 Q. Right. And, in fact, it is a
11 persistent problem with not just forest industry
12 operators, but others leaving garbage on sites; is that
13 correct?

14 A. That's correct.

15 Q. And oil drums are a sign of motorized
16 vehicles which could be from a variety of users; is
17 that correct?

18 A. It could be.

19 Q. So, in fact, this could be from a
20 forest industry company or some other users; is that
21 right?

22 A. It could be, yes.

23 Q. You just want to see the garbage
24 cleared up?

25 A. Correct.

1 Q. Now, do you see that road crossing
2 there, Mr. Benson?

3 A. Yes.

4 Q. My understanding is that some road
5 engineers would consider that to be a good road
6 crossing designed to prevent erosion on that Crown
7 management unit - do you have any comments on that -
8 erosion or sedimentation to the water?

9 A. You are referring to the far bank
10 with the stonework on that far bank?

11 Q. Yes.

12 A. I am trying to recall, but I would
13 presume if there was a significant amount of erosion I
14 would have taken a picture of it and put in the book.

15 Q. I am not asking you to comment on
16 whether or not there was erosion.

17 I am asking you to comment if you have
18 any comments on whether or not you thought that was a
19 good effort to prevent erosion with the rock placement
20 the way it is?

21 A. Oh, that's what I meant that must
22 have been stopping erosion, otherwise I would have
23 taken a picture of it.

24 Q. So the result means that it was a
25 good job; right?

1 A. In that particular case, yes.

2 Q. If you could turn to photo 295, Mr.

3 Benson. I believe your comment in respect of this
4 photograph was, why not leave that area for natural
5 jack pine?

6 A. What number is that, please?

7 Q. Photo 295. Now we are on the Abitibi
8 Spruce River Forest.

9 A. Yes, that's right.

10 Q. Mr. Squires, who is the forester on
11 that area, you know Mr. Squires; don't you?

12 A. I do.

13 Q. He tells me that that site originally
14 was a stand made up of 60 per cent black spruce, 30 per
15 cent jack pine and 10 per cent poplar.

16 Would you know what that stand was before
17 you took that picture originally?

18 A. Not that one, no.

19 Q. And I think your comment was that
20 it appeared to be planted to black spruce?

21 A. To white spruce.

22 Q. White spruce. Mr. Squires tells me
23 that the foreground of that photograph was in fact
24 planted with black spruce - I am not going to argue
25 with you whether or not it was black spruce or white

1 spruce - and that the background of the photograph
2 following towards the swamp, back here, was left for
3 natural. Did you observe that when you went out there?

4 A. It wasn't treated down to the swamp,
5 that's correct. It wasn't scarified or planted down to
6 the swamp, that's correct.

7 Q. I'm sorry?

8 A. It wasn't scarified or planted down
9 to the swamp.

10 Q. Could you just move your mike a bit
11 up. Thank you.

12 So, then, you can confirm that it was
13 left for natural -- my understanding is it was taking
14 advantage of the seed source back there.

15 A. The seed source along the edge of the
16 swamp.

17 Q. Mm-hmm.

18 A. I wasn't sure why it was left. It
19 wasn't clear to me at that time.

20 Q. Is that the type of site specific
21 variety of treatment that you would like to see done,
22 sir?

23 A. Which area are you referring to, the
24 trees along the edge of the swamp?

25 Q. Everything in this photograph;

1 planted in the front, left for natural for the seed
2 source in the back.

3 A. Well, the scarification, even with
4 the Brackie here I thought was a bit heavy because it
5 did expose some of the rock, and you were getting the
6 jack pine coming back in naturally. So in a case like
7 that it seemed redundant to plant the spruce.

8 Now, when you go down to the lowland, you
9 really have a transition there between the slope and
10 the lowland part and there was a landing over on the
11 right of the photo, I believe.

12 I'm trying to recall, but I don't believe
13 the slope was treated at all, but I'm not not too sure
14 how that area between the slope and the swamp was to
15 become naturally regenerated by the trees. Like, I
16 don't quite see how it could become naturally
17 regenerated just by the trees left around the edge of
18 the swamp. It doesn't look sufficient enough to me.

19 Q. Why is it redundant to plant spruce
20 when the site originally was 60 per cent spruce?
21 Wouldn't you want to replace the stand that was
22 originally there?

23 A. You could, but I sort of looked at it
24 from a cost point of view. If you are getting at
25 natural regeneration I would go with the natural

1 regeneration.

2 Q. So you don't want to replace nature
3 if it's too expensive?

4 A. My own priorities would be the cost
5 first and the nature second.

6 Now, for Forests for Tomorrow it would
7 probably be, if I was recommending to them what to do
8 for this particular area -- it's a difficult question,
9 you know, like when you look at the -- I think you have
10 to consider the forest as a whole and how that forest
11 develops as a whole because these sites will go through
12 different stages of different species at different
13 times depending what disturbance has occurred, and I
14 think it is a matter if you are trying to balance it
15 out biologically you might or might not want to plant
16 depending on how you had to balance it out. So under
17 some circumstances perhaps you would want to plan it.

18 MR. MARTEL: Let's say you were starting
19 from square one and the trees were still there, would
20 you not have cut, under your position, smaller size
21 clearcut or strip and then tried to allow it to go back
22 to black spruce on its own since 60 per cent of it
23 was - I think Mr. Cassidy said it was 60 per cent -
24 black spruce to start with?

25 Wouldn't you want to try to get it back

1 to black spruce - certainly that's what Marek said -
2 and to use smaller cuts or strip cuts or block cuts in
3 order to achieve that rather than the consideration of
4 funding first?

5 I mean, it seems to me that the horse has
6 been put before the cart.

7 THE WITNESS: Right. We are looking at
8 the area after it is harvested and what would we do
9 with that area after it has been cut.

10 If you were starting with a standing
11 forest, you would try to prescribe the treatment and my
12 recommendation is to try to prescribe the treatment
13 that's going to give you the best natural regeneration.

14 Through Forests for Tomorrow we presented
15 some ideas on what we think would work and I presented
16 those ideas on the basis of having trees within seeding
17 distance of the area, and I qualified that by saying
18 that I really think it has be the forester for a
19 particular spot that gets to know the peculiarities of
20 his particular management unit, just would a strip cut
21 work there, would a block cut work, what width, et
22 cetera, would be required to work, but if you are going
23 for natural regeneration, yes, you would want to try
24 something like that.

25 MR. MARTEL: Can I take it to the next

1 step then. It is cut, would you still not want to get
2 the area back to black spruce if possible since that's
3 what nature had there in the first place?

4 Would you not try to retain black spruce
5 in an area that grew black spruce as opposed to
6 converting to something else?

7 THE WITNESS: I think in some of these
8 areas they have been switched back and forth between
9 species, depending upon the history of what's occurred
10 there.

11 What I was trying to say is, you would
12 have to take that switch between species into account
13 when you looked at your management unit overall and how
14 you are going to decide what you want to get back on a
15 particular site. It might depend upon what balance --
16 which way you had to tip the balance at a certain time
17 period.

18 I think you said, though, that it was a
19 mixture really of jack pine --

20 MR. MARTEL: 60, 30, 10 I think were the
21 numbers given.

22 MR. CASSIDY: That's right. It was
23 predominantly a working group of black spruce.

24 MR. MARTEL: 60; 30, jack pine; and 10,
25 poplar.

1 THE WITNESS: See, even with natural
2 regeneration for a spot like that you are quite likely
3 going to get more jack pine coming back naturally than
4 spruce.

5 MR. CASSIDY: Q. Okay?

6 A. Yes.

7 Q. When you were working in the
8 Kapuskasing area the predominant species was black
9 spruce; was it?

10 A. I had three units I looked after in
11 the Kap area. One was inactive, one was the northern
12 unit which was predominantly spruce, but also veneer
13 poplar and the other was done by Hornepayne which was
14 both spruce and jack pine.

15 Q. So one unit of jack pine? One unit
16 that had a jack pine component in it?

17 A. Yes. There was some jack pine in the
18 northern too, but not a great deal.

19 Q. That's all in the northeast then, is
20 that right, of the province?

21 A. The northeast of the province,
22 correct.

23 Q. Not the northwest?

24 A. Not the northwest, no.

25 Q. You have never had any experience

1 with the Ministry practising jack pine silviculture in
2 the northwest; have you?

3 A. No, I haven't.

4 Q. Now, you have mentioned in your
5 evidence that you believe the Abitibi mill uses black
6 spruce, and Mr. Squires in his case study, OFIA Panel 4,
7 said that, that the preferred species is black spruce.

8 Do you agree that in appropriate
9 circumstances that wood supply factors such as that
10 should be taken into account when deciding on
11 treatments of areas such as slide 295 -- photograph
12 295?

13 A. That's a difficult question, too,
14 because wood use changes over time.

15 I can appreciate the concern at the
16 present time for a mill to try to maintain its wood
17 supply on a certain species, but even now in the
18 Thunder Bay area, in past years the utilization of
19 poplar has increased.

20 I just find it difficult to think 100
21 years down road or 90 years down the road are you going
22 to have a mill that's going to want to use the same
23 proportion of species or is it going to change.

24 Q. You have got to make a prediction
25 somewhere, though; don't you?

1 A. You do, that's right.

2 Q. And softwoods has been the
3 predominant type of wood supply for the last hundred
4 years, pulp and paper and in logging; is that correct?

5 A. For pulp and paper and in -- what do
6 you mean by logging?

7 Q. I'm sorry. Sawmill.

8 A. I'm not too sure what the
9 breakdown -- when you throw in sawmill there, you are
10 throwing in hardwoods also which --

11 Q. Let's throw it out then. Let's just
12 say pulp and paper.

13 A. For pulp and paper it would be
14 predominant, yes. The conifers would be predominant.

15 Q. And you are not suggesting this site
16 should come back to poplar?

17 A. No, I'm not suggesting that. I'm not
18 too sure where the question is leading, but I said, why
19 not have the jack pine there.

20 Q. Yes.

21 A. Well, the mill use jack pine in 50
22 years, 90 years?

23 Q. That's a guess; right?

24 A. It's a guess. It's also something
25 that you can plan for, too. I think it is something

1 that you have to take into account.

2 Q. Can we move to photo
3 292. Your description of this in Exhibit 1608, site
4 variety evident in small conifer reserve areas, people
5 are picking blueberries, planted to white spruce, area
6 on left was disc trenched, on right it was treated with
7 Brackie.

8 Mr. Squires's' information is that that
9 was all treated with a Brackie because the distrencher
10 was too heavy.

11 A. I was making that --

12 Q. Sorry. Do you have any information
13 on that?

14 A. I was making that observation based
15 on what I had seen and I did ask one of the foresters
16 out there that was supervising the scarifying operation
17 what they had done there and it was my understanding
18 that they had performed the operation as I described
19 it.

20 Perhaps maybe I saw - if they stopped
21 working there, perhaps I just examined the part that
22 they had used disc trencher in.

23 Q. We will come back to photo 292 later.

24 I think we can turn the lights on now,
25 Madam Chair.

1 Q. You may recall last year, end of the
2 year, and it is in Volume 271, Tuesday, December 11th,
3 that you and Mr. Martel had a discussion about the
4 state of record keeping and there was discussion
5 about --

6 MS. SWENARCHUK: What are the page
7 numbers, Mr. Cassidy?

8 MR. CASSIDY: We are talking about
9 commencing around page 48,953 and it was in reference,
10 I believe, Mr. Benson, to Exhibit 1626 which is the red
11 bristol board collage which is taped together by
12 yourself containing the satellite -- photos of the
13 satellite images.

14 I want to produce to you a series of
15 maps. I think they have already given you one of them,
16 which is a series of geographic information system maps
17 produced by Abitibi-Price and I have, I believe, a
18 number of sets. I may not have enough for all counsel,
19 but I will be able to give them copies down the road if
20 they wish.

21 Now, it might be helpful, Mr. Benson, if
22 you came up here because I want to show the Board as we
23 go through it.

24 THE WITNESS: Do you want this particular
25 map?

1 MR. CASSIDY: No, I have that in this
2 collection.

3 MADAM CHAIR: Are you going to make all
4 these exhibits, Mr. Cassidy?

5 MR. CASSIDY: Yes. I think we probably
6 should make it an exhibit after I explain what it is
7 and I will have extra sets made also of this.

8 Q. Now, Mr. Squires has located photo
9 292 and has produced a geographic information system
10 map that he has collected and has indicated the
11 location of photo 292 with an "x" on the first map.

12 There are a series of five maps in this
13 collection and this one is marked No. 1 in the upper
14 right-hand corner.

15 MR. MARTEL: The "x".

16 MR. CASSIDY: "X" marks the spot.
17 (indicating)

18 MR. MARTEL: That's a funny "x".

19 MR. CASSIDY: It is an "x" and an arrow.

20 Q. Mr. Benson, you are aware that these
21 types of maps exist? You have seen this type of map
22 before; haven't you?

23 A. I've seen them. I haven't really had
24 the opportunity to use this particular type.

25 Q. You have never worked with a GIS map?

1 A. I have never had a GIS map...

2 THE REPORTER: Excuse me?

3 THE WITNESS: I'm sorry. The types of
4 maps that we have used so far are mainly all the old
5 type maps. There are a few that I've worked with that
6 are partly GIS, they are forest type maps, but they
7 have no more than just the forest typing on them.

8 MR. CASSIDY: Okay. Now, if we can
9 describe the first map and perhaps we can mark this as
10 Exhibit 1652, I believe, Madam Chair.

11 MR. MARTEL: Yes.

12 MR. CASSIDY: 1652A will be a GIS map of
13 the photo location No. 292.

14 ---EXHIBIT NO. 1652A: GIS map of the photo
15 location No. 292 referred to in
Mr. Benson's evidence.

16 MR. CASSIDY: Q. Do you see the gray
17 cross-hatched area indicated on this first map, Mr.
18 Benson?

19 A. I do.

20 Q. And do you see the legend which
21 indicates that that is the harvested area?

22 A. Correct.

23 Q. All right. And if we can flip to the
24 second map.

25 MADAM CHAIR: Excuse me. The gray legend

1 is the cut-over.

2 MR. CASSIDY: It is the harvested area.

3 Q. Are you aware that it is possible to
4 have the GIS map indicate the date of harvest on each
5 one of these areas?

6 A. I am familiar with how a GIS map
7 works and the fundamentals of have. It is just that we
8 haven't been using those particular -- we aren't set up
9 to use them at our university with the students.

10 Q. All right. That's Lakehead; right?

11 A. That's right.

12 Q. If I might move on to --

13 A. I mean, in the forest management
14 area. We would certainly have specialize courses where
15 they do use them and become more familiar with the
16 system.

17 Q. But you don't teach that?

18 A. No. I don't teach that, no.

19 Q. I would like to move on to the second
20 second map in this series that we will mark as 1652B.

21 Do you agree, sir, that now in
22 addition -- this is the same location with a green spot
23 marking the location of photo 292, and in addition to
24 the gray cross-hatched area, the GIS map has now
25 indicated the areas that have been site prepared and,

1 in fact, on this map it indicates the year and type of
2 site preparation. Do you see that there?

3 A. I see that.

4 Q. And would you --

5 MADAM CHAIR: Excuse me, Mr. Cassidy.

6 These maps were prepared in January of 1991?

7 MR. CASSIDY: In December and January of
8 this year.

9 MR. FREIDIN: December of last year.

10 MR. CASSIDY: Yes, December of 1990.

11 MADAM CHAIR: Have we had maps of this
12 type before us?

13 MR. CASSIDY: You have not had maps of
14 this before you. You have Exhibits 1025 and 1026 which
15 were part of the clearcut exercise which had an
16 indication of the clearcut area produced by GIS, as
17 well as the one treatment I believe, but nothing of
18 this nature.

19 Q. Mr. Benson, would you agree that this
20 indicates in the area around photograph 292 site
21 specific areas indicating where the particular type of
22 site preparation was done and what year?

23 A. Yes, it does. The years are
24 indicated in the legend; is that correct?

25 A. Correct.

1 ---EXHIBIT NO. 1652B: GIS map of the photo location
2 of No. 292 referred to in Mr.
3 Benson's evidence depicting
4 areas that have been site
 prepared and indicates the year
 and type of site preparation.

5 MR. CASSIDY: Q. And if we move to the
6 third map in this series, that we should now mark as
7 Exhibit 1652C, we see that this map adds on the
8 photograph location 292, again marked with an "x" or a
9 dot in that middle of this particular exhibit.

10 It now indicates not only where the
11 harvest was and the site preparation, but indicates
12 what areas were planted. Do you see that?

13 A. That's correct.

14 Q. And, in fact, the legend gives a
15 breakdown of the area year of the planting?

16 A. That's correct.

17 Q. And, again, indicates the site
18 specific areas where those activities occurred?

19 A. Correct.

20 ---EXHIBIT NO. 1652C: GIS map of the photo location
21 of No. 292 referred to in Mr.
22 Benson's evidence depicting
23 areas that have been site
 prepared, indicates the year
 and type of site preparation and
 areas planted.

24 MR. CASSIDY: Q. If we move to the
25 fourth series -- fourth in this series of maps, which

1 we should mark as Exhibit 1652D, we now have the
2 location marked again. This time it appears with a dot
3 of some form, photo 292, and then an indication on this
4 map, in addition to the harvesting and the site prep,
5 the addition of what areas were tended with chemical
6 tending?

7 A. Correct.

8 Q. And that is the blue, correct, Mr.
9 Benson?

10 A. Blue?

11 Q. Down here. (indicating)

12 A. Oh, okay. I should point out that
13 what appeared before was harvested because we did use a
14 series of -- for cruising exercises. We had different
15 areas that we used during different years along Highway
16 800.

17 Q. Okay.

18 MR. MARTEL: Where is the "x"?

19 MR. CASSIDY: I believe that is meant to
20 be the "x".

21 I believe that's the "x".

22 THE WITNESS: No, no.

23 MR. CASSIDY: All right, sorry. The "x"
24 is there. (indicating)

25 THE WITNESS: I can't see it but that's

1 where it was on the other one. That's the spot where
2 the blueberry picker was taken.

3 MR. CASSIDY: Yes. People picking
4 blueberries.

5 THE WITNESS: The other one I showed
6 is -- I'm not too sure, this side of the "x", but just
7 on the other side of the road.

8 Q. Great. Do you see that, Mr. Martel?

9 MR. MARTEL: Yes.

10 ---EXHIBIT NO. 1652D: GIS map of the photo location
11 of No. 292 referred to in Mr.
12 Benson's evidence depicting
13 areas that have been site
14 prepared, indicates the year
and type of site preparation,
areas planted and areas tended
with chemical tending.

15 MR. CASSIDY: Q. Now, the fifth and
16 final map in this series contains an indication of the
17 softwood and hardwoods that exist upon that area, gives
18 a breakdown of the remaining timber that was there that
19 was not harvested.

20 A. Okay.

21 Q. And gives it by species and by age
22 class. Do you see that?

23 A. That's correct.

24 Q. All right. If this can be marked as
25 Exhibit 1652E.

1 MADAM CHAIR: Again, Mr. Cassidy what is
2 it adding?

3 MR. CASSIDY: This adds an indication of
4 the stands that remained that were not harvested and
5 gives a breakdown of what they are.

6 ---EXHIBIT NO. 1652E: GIS map of the photo location
7 of No. 292 referred to in Mr.
8 Benson's evidence depicting
9 areas that have been site
10 prepared, indicates the year
11 and type of site preparation,
12 areas planted, areas tended
13 with chemical tending and stands
14 that remained that were not
15 harvested and gives a breakdown
16 of what they are.

17 MR. MARTEL: Where is the "x" again?

18 THE WITNESS: Right in this area.

19 (indicating)

20 MR. CASSIDY: Q. You are pointing out
21 the "x" and marking it where photo 292 was taken; is
22 that correct? Have I got the right the spot?

23 A. There were three or four photos taken
24 in that spot I think.

25 Q. 292, though, is the one we have been
referring to?

A. The one with the blueberry pickers?

Q. Yes.

A. Yes.

1 MR. MARTEL: How do you differentiate
2 between the softwoods and hardwoods? The colours?

3 MR. CASSIDY: Yes.

4 MR. MARTEL: Which one is the hardwood
5 there?

6 MR. CASSIDY: The hardwoods appear to be
7 indicated with a lighter colour or the grey and white
8 colours, Mr. Martel, with the cross-hatches.

9 Q. Would you agree with that, Mr.
10 Benson?

11 A. The question was poplar birch?

12 MR. MARTEL: Just hardwoods as opposed to
13 conifers.

14 THE WITNESS: The hardwoods there are
15 black coloured.

16 MR. MARTEL: All right. That's all I
17 wanted to ask.

18 MADAM CHAIR: Excuse me, one more
19 question. What is the size of this area on the map?

20 MR. CASSIDY: It was approximately 3,600
21 hectares around the cut area. That includes this whole
22 picture -- sorry, that is the harvested area.

23 That's the harvest area of 3,600 hectares
24 around.

25 MADAM CHAIR: Of the entire -- not of the

1 entire FMA area?

2 MR. CASSIDY: No.

3 MADAM CHAIR: Of the lakeland/woodlands?

4 MR. CASSIDY: No. This map was produced,
5 if is my information, by the Lakehead Woodlands. It is
6 my information that it is just a shot of the area
7 around photo 292. It is not in reference to any
8 particular boundary except that the south end of the
9 FMA happens to be at the lower end of this photograph.

10 MADAM CHAIR: All right, thank you.

11 THE WITNESS: The point I am leading up
12 to is I think I sent you a satellite shot showing where
13 I shot the photographs. I think I have marked it at
14 this location. I'm not entirely sure, but ...

15 MR. CASSIDY: Okay.

16 MR. MARTEL: Mr. Benson, with that type
17 of last map that you have there which indicates the
18 type of wood left and so on, would that help future
19 planners to provide habitat necessary for a variety of
20 wildlife?

21 THE WITNESS: I think we talked about GIS
22 systems before, but I think it's a very good system
23 because it allows you to work with information much
24 easier than what you could before.

25 As you saw by the maps there, you could

1 have a variety of information stored in the one system
2 and bring it up the way you wanted. Yes, it's -- I was
3 going to say a forester's dream, but I think it is that
4 way in a way because you have lots of information to
5 deal with and this is a convenient way to deal with it.

6 MR. CASSIDY: Q. Mr. Benson, would you
7 agree that this type of geographic information system
8 is the wave of the future as opposed to the bristol
9 board, Exhibit 1667?

10 A. Well, certainly and I think I made
11 that clear at the start.

12 Q. Great. Thank you.

13 A. I would like to say that from a
14 planning point of view, the scale that I am working
15 here is 1:1,000,000. You can also get these at a scale
16 of 1:500,000.

17 The B.C. Forest Service has used these
18 for planning at that level and if you get the -- I know
19 some other countries are using not the image, but the
20 more expensive satellite digitized data for getting
21 information on cut-overs to put onto their maps.

22 So I don't think that the satellite
23 system -- I was doing it as cheaply as possible and
24 without measuring those areas, but certainly you don't
25 want to throw the satellite system out because you can

1 get valuable information from it that you can
2 incorporate on your map.

3 MR. CASSIDY: Q. Mr. Benson, are you
4 aware the turn-around time for the production of a map
5 like this is a matter of days, if not hours upon
6 request, or is that not --

7 A. I'm sorry, the turn-around for the
8 time to obtain a map like this?

9 Q. Yes. It may not be within your area
10 of expertise, so if you can't answer it I understand.

11 A. I'm familiar what they do at the
12 university and I'm not too sure if you mean to make it
13 or to obtain it.

14 Q. At the time someone such yourself
15 would request it and the time that it could be in your
16 hands.

17 A. If it was available? I wasn't aware
18 we could obtain these maps from Abitibi and the...

19 Q. Finished?

20 A. If I had known, it would have been
21 helpful if we could have obtained it, but I wasn't
22 aware that we could obtain these things.

23 Q. You didn't ask?

24 A. Well, I didn't ask recently and
25 certainly if I look at my past experience working

1 trying to gather information from companies and from
2 the Ministry it's not always been that fruitful.

3 I could ask a lot and not get very much
4 back that way and I was trying to keep it relatively
5 consistent and go through the Ministry offices that I
6 felt were responsible and see what we could obtain that
7 way.

8 MS. SWENARCHUK: I would like to know if
9 we are going to have evidence from the Industry that an
10 environmental group writing to Abitibi can get its
11 orders for map productions satisfied in the way that
12 you have indicated this morning. We would be delighted
13 to do so if that's the case.

14 Will we have that kind of evidence, Mr.
15 Cassidy?

16 MR. CASSIDY: Well, whether we will lead
17 reply evidence is within my bailiwick to decide and I
18 am prepared to call reply evidence on the nature of how
19 quickly this informing can be produced which is what
20 the question was that I asked him.

21 MADAM CHAIR: I think, Mr. Cassidy, Ms.
22 Swenarchuk is asking a question of interest to the
23 Board and that is, from the first day of this hearing
24 we have had evidence before us that GIS is an evolving
25 technology that will be of great benefit to all persons

1 interested in forestry and, of course, this hearing has
2 gone on such a long time that obviously the GIS
3 technology in May of 1988 -- there have been changes up
4 until this point this time and it interests the Board
5 about what is available now and what might be available
6 in a few years to come and how that all fits in with
7 your scheme for the timber management process with
8 respect to public participation.

9 So certainly the Board will be interested
10 in that.

11 MR. CASSIDY: We have called planning
12 evidence in respect of how we see the dissemination of
13 information going to the public and I rely on that.

14 MR. MARTEL: That's my concern - Just so
15 we can take it one step further - how in reply we could
16 find out and certainly Industry has opened its books a
17 lot more in recent years than, let's say, 10 years ago,
18 but certainly the impression I am left with with the
19 question you put to Mr. Benson is that that information
20 is available to him.

21 Is that to him as the public, to him as a
22 university prof or is it available to anyone who might
23 ask?

24 That must be expensive. I would just
25 like to know how readily this sort of information is

1 going to be made to the public, just for the sake of
2 knowing so that -- because I think one of problems has
3 been, not an easy flow of information and may be
4 reluctance to provide it and there have been barriers
5 there.

6 MR. CASSIDY: There is evidence from our
7 planning panel that deals with that, and to the extent
8 that it does not deal with it we will consider leading
9 that evidence in reply.

10 MR. MARTEL: Thank you.

11 MR. CASSIDY: As I say, I have extra
12 copies of that documentation which I can provide
13 counsel. There is maybe one map missing, but if they
14 wish we will provide them with a full set.

15 The final matter I would like to deal
16 with, Madam Chair, is simply to state with respect to
17 the evidence from Mr. Benson regarding the incident
18 with the Canadian Pacific Forest contractor.

19 The individual spoken about was not an
20 employee of Canadian Pacific Forest Products. He was
21 been aware of that evidence and I am not in a position
22 to state what his evidence is. I don't know how we
23 deal with getting that person before the Board because
24 he is not one of my clients, short of subpoenaing that,
25 but suffice it to say that there is a disagreement, I

1 am advised, about the incident.

2 I am not in a position to do any more
3 than state --

4 MR. MARTEL: Can you fresh refresh my
5 memory --

6 MS. SWENARCHUK: Mr. Cassidy, if you are
7 not in a position to do anything more than, then you
8 are not in a position to provide any information for
9 the Board. I think you are quite aware of that as
10 counsel. You are not in a position to provide
11 evidence. You can subpoena an individual in this
12 province as anyone else can. At that point, some
13 evidence on that issue will be before the Board and not
14 until then.

15 MADAM CHAIR: Mr. Cassidy, let's start at
16 the beginning. What page are we referring to in
17 Exhibit 1604B?

18 MS. SWENARCHUK: With respect, Madam
19 Chair, dealing with legalities here, Mr. Cassidy has no
20 information to provide of you of an evidentiary nature
21 with regard to the incident in question and I
22 respectfully request that until he has and until he can
23 provide it in accordance with the law there is really,
24 unfortunately, no more discussion of the matter before
25 you.

1 MADAM CHAIR: There is discussion of the
2 matter as far as the Board is concerned with respect to
3 where is the citation in Mr. Benson's witness statement
4 where you are referring to this.

5 MR. MARTEL: I just want to know what we
6 are talking about.

7 THE WITNESS: 182.

8 MR. FREIDIN: What page?

9 THE WITNESS: 182.

10 MADAM CHAIR: Thank you, Mr. Benson.

11 MR. CASSIDY: Those are all my questions,
12 Madam Chair.

13 MADAM CHAIR: Thank you, Mr. Cassidy.

14 Ms. Seaborn, how long did you say you
15 would be?

16 MS. SEABORN: My estimate, Madam Chair,
17 was two hours. I think that's realistic. Maybe a
18 little less than two hours.

19 MADAM CHAIR: We are going to take
20 another break while this transfer is going on.

21 MS. SEABORN: Thank you, Madam Chair.

22 ---Recess taken at 10:40 a.m.

23 ---On resuming at 11:05 a.m.

24 MADAM CHAIR: Please be seated.

25 MS. SEABORN: Good morning, Mr. Benson.

1 THE WITNESS: Good morning.

2 MS. SEABORN: Madam Chair, before I
3 commence with my cross-examination of Mr. Benson, in
4 reviewing the transcripts I noticed one error in a
5 cross-examination during Panel 3 and this is in
6 relation to Volume 262 of the transcript.

7 I noted in reviewing my cross-examination
8 of Mr. Marek that in the top right-hand corner of that
9 transcript my questions had been attributed in the
10 transcript to Ms. Cronk and I am merely not as eloquent
11 as Ms. Cronk and I doubt that she would be happy to see
12 her name in place of my name. The pages where the
13 error occurs commences at page 47,321 of Volume 262
14 continuing to the end of that volume which is page
15 47,398.

16 There doesn't appear to be an error in
17 terms of the content of the cross-examination and my
18 name appears in terms of answering the questions, but
19 Ms. Cronk's name appears in the top right-hand corner
20 of those transcript pages.

21 MR. CASSIDY: I just might note, Madam
22 Chair, that there are some instances where I am
23 mistaken for Mr. Castrilli in the cross-examination.

24 And while I have the greatest respect for
25 Mr. Castrilli, I don't think I even resemble him in the

1 least.

2 MADAM CHAIR: You both have facial hair,
3 Mr. Cassidy.

4 MR. CASSIDY: At the moment. But where
5 that becomes material in the transcript, that is down
6 the road in reviewing for final argument and it will be
7 pointed out at that time.

8 MADAM CHAIR: Thank you.

9 MS. SEABORN: The second thing I would
10 like to do, Madam Chair, is mark the Ministry of the
11 Environment's terms and conditions, dated September
12 28th, 1990 as an exhibit.

13 I understand the Board has all the terms
14 and conditions in a binder and some parties' terms and
15 conditions have been marked as an exhibit and I don't
16 believe that the Ministry of the Environment's has
17 been.

18 MADAM CHAIR: That will be Exhibit 1653.

19 MADAM CHAIR: That was dated?

20 MS. SEABORN: September 28th, 1990.

21 ---EXHIBIT NO. 1653: Ministry of the Environment's
22 terms and conditions, dated
September 28th, 1990.

23 MS. SEABORN: I have a bundle of
24 interrogatories I would like to file, Madam Chair.
25 These are in relation to Panel 5. They are all

1 questions posed by the Ministry of the Environment and
2 they are question Nos. 1 through 19 inclusive and the
3 document is 38 pages.

4 MADAM CHAIR: Thank you. This will be
5 Exhibit, 1654.

6 MS. SEABORN: I provided copies to the
7 other parties.

8 ---EXHIBIT NO. 1654: MOE interrogatory question Nos.
9 1-19 and answers thereto
consisting of 38 pages.

10 CROSS-EXAMINATION BY MS. SEABORN:

11 Q. Mr. Benson, I would like to begin by
12 asking a few follow-up questions in relation to Exhibit
13 1652 which were the GIS maps that Mr. Cassidy showed
14 you before the break.

15 Would you see a benefit, Mr. Benson, in
16 having GIS maps of the type Mr. Cassidy showed you
17 overlaid on most recent FRI stand maps?

18 A. I think for some purposes, yes, it
19 would be useful. I believe they can probably do that,
20 too, depending when they started recording the GIS.

21 Q. And from that sort of an exercise we
22 would be able to see what was on a piece of geography
23 before a harvest and then what type of timber
24 management activities were carried out on that same
25 area?

1 A. Yes, that's --

2 Q. If we did that overlay.

3 A. Yes, that's right. I think in
4 addition the advantages to it is it's a database also,
5 a computer database. So you can not only map it, you
6 can summarize and collate it in any particular manner
7 are you want.

8 Q. So that information would be useful
9 for a variety of purposes, then?

10 A. Yes.

11 Q. To your knowledge, Mr. Benson, are
12 GIS maps routinely available at open houses today?

13 A. I haven't been to an open house for a
14 couple of years at least, so I don't know.

15 Q. Okay. Would you agree that maps of
16 this sort would assist people in understanding what had
17 occurred during the previous five-year planning period
18 if they were available at an open house?

19 Q. I think they would help me. I'm not
20 too sure how most people relate to a map.

21 Again, when you look at a management unit
22 for a five-year period you might have a number of
23 different maps there. It might require some
24 simplification of the maps that would be produced by a
25 GIS system.

1 Q. But you would agree with me that GIS
2 produced maps would be useful to certain members of the
3 public, at lease, at open houses?

4 Q. I think so, yes.

5 Q. Could they also be used as a
6 predictive tool to tell you what was being planned to
7 occur on a piece of geography during the five-year
8 planning period that was upcoming?

9 A. Yes. And even further than that, you
10 can, particularly with your stand inventory type of
11 map, you can have it linked to some other program to
12 see what the effect of implementing some harvest
13 patterns would be or some level of harvest would be.

14 The difficulty with a lot of prediction
15 models in the past is you make an allowable cut but it
16 is not linked to a particular area on the ground. So
17 you have an area figure or a volume figure, but not a
18 location on the ground for that.

19 That's an area where they have been
20 trying to put the two together so you can make an area
21 volume calculation and locate it on the ground and
22 sometimes locate it on the grouped with certain
23 criteria specified for it. So that -- well, if I gave
24 the example, if you want an area strip cut, you could
25 have it laid out so that they were marked as being

1 strip cut and it would pick the eligible stands
2 according to certain criteria, be it age or perhaps
3 even distance from a road.

4 Q. Mr. Benson, could you turn to Exhibit
5 1654 which are the bundle of interrogatories that I
6 just filed. You will see in the top right-hand corner
7 I have handwritten in some page numbers.
8 That is on your copy?

9 A. Yes, it is.

10 Q. Question No. 18(c) is at page 5 and
11 we had asked you whether or not for each management
12 unit analysed:

13 "Please indicate whether the
14 silvicultural groundrules for normal
15 operating areas (Table 4.1.1. or its
16 predecessor) and areas of concern (Table
17 4.1.2 or its predecessor) were reviewed."

18 As I understand the analysis of the
19 different management units that you undertook, on a
20 number of management units you carried out field
21 inspections; correct?

22 A. That's correct.

23 Q. And if you turn to page 17 of Exhibit
24 1654 you will see the response to question 18(c) where
25 you said:

1 "'X' indicates if the groundrules or
2 their equivalent were examined."

3 I note in the response that for most of
4 the management units you did look at the silvicultural
5 groundrules; correct?

6 A. Correct.

7 Q. And the exceptions are noted in the
8 interrogatories response?

9 A. That's correct.

10 Q. Now, did you attempt for any of the
11 management units to trace the prescriptions from Table
12 4.1.1 to a particular piece of geography?

13 A. Originally we had taugt of doing
14 that, but I found that it was going to be too difficult
15 and time consumption to follow that particular pattern
16 of looking at the management plans.

17 Q. So you didn't attempt that exercise?

18 A. No.

19 Q. Okay. Now, based on your experience
20 with timber management planning, in particular
21 reviewing plans, in your view would it be possible to
22 have traced these prescriptions from the table to a
23 particular piece of geography?

24 A. That's the silvicultural guidelines?

25 Q. Yes, the silvicultural groundrules in

1 Table 4.1.1.

2 A. Depending upon how they were laid out
3 in the plan, some are more simple than others and some
4 areas are simpler than others to find out what the site
5 is.

6 Some are becoming involved with FEC site
7 classifications which means you would have to know what
8 the site was with standing timber on it and you really
9 can't tell after the timber is off site.

10 I think overall what I found from my
11 point of view when you are looking at different
12 management units and trying to relate it to these
13 sites, I would need more familiarity with each one and
14 the rules to feel more comfortable with doing it and
15 knowing the layout of the management unit.

16 Overall it becomes more complex with time
17 than what they were.

18 Q. Is it fair to say that in order for
19 you to have undertaken that exercise you would have had
20 to have made a judgment in terms of taking a site type
21 from Table 4.1.1 and deciding how that site type
22 matched with the particular area?

23 A. That's correct.

24 Q. Now, did you during your field
25 inspections visit any sites that were recorded as being

1 eligible for harvest but not yet harvested and try and
2 determine from the plan what the preferred
3 silvicultural prescription was going to be for that
4 piece of geography?

5 A. I can't recall any sites that were in
6 that category.

7 Q. Okay. From my listening to your
8 testimony and looking at your pictures, most of the
9 photographs you showed were areas that had already been
10 cut over. I don't think we saw photos of areas that
11 were eligible for harvest the way I just indicated to
12 you; is that correct?

13 A. No. We were in some areas that were
14 or close to some areas that were being harvested, but
15 we didn't really look at the stands pre-harvest.

16 Q. And from your understanding of how
17 plans are prepared today, could you have gone to an
18 area eligible for harvest and then gone back to the
19 plan and tried to determine what the preferred
20 silvicultural prescription was going to be for that
21 area? Would that have been possible is my question.

22 A. I think for most plans you probably
23 could do that.

24 Q. Okay.

25 A. Some of the ones that have a more

1 complex site classification system, you might need more
2 familiarity with that management unit to do it.

3 Q. And, Mr. Benson, just so I am clear
4 on this, when you say you could do it, would it be a
5 simple task?

6 A. If the area hasn't been harvested and
7 you are trying to determine how you are going to treat
8 that, it's not necessarily a simple task.

9 You have to have something, either a
10 survey of the area according to the way the sites have
11 been classified or be able to interpret them aerial
12 photographs, but you have to have some system to
13 identify those sites on the ground according to your
14 classification system.

15 Q. Okay. Is it fair to say that it
16 would not have been enough then for you to have looked
17 on a map at an area eligible for harvest and then taken
18 the Table 4.1.1. for that working group and to have
19 tried to establish with any degree of certainty what
20 silvicultural prescription was going to be applied on
21 that site because, again, you would have had to have
22 made a judgment in relation to the site type?

23 A. Without either examining the site on
24 the ground or knowing how to interpret it on the
25 photographs?

1 Q. That's right.

2 A. That's correct.

3 Q. Okay. Now, in the interrogatory
4 response you also indicated the extent to which you
5 reviewed areas of concern prescriptions in relation to
6 what is called Table 4.1.2.?

7 A. Correct.

8 Q. And that appears again at answer
9 18(c). As I understand your answer to our question
10 18(b), you did not review the comprehensive plans for
11 the various management units?

12 A. No, I didn't. The comprehensive
13 plans are becoming rather big documents in themselves
14 for some management plans.

15 Q. And did you attempt to associate the
16 prescriptions from Table 4.1.2 with particular pieces
17 of geography in terms of area of concern?

18 A. Originally that was the idea, but it
19 was difficult to -- our main difficulty was first to
20 find the areas where the operations were occurring and
21 the silvicultural operations that were occurring, where
22 the cut-over was and where the silvicultural work was
23 being done.

24 From what we saw in general, I couldn't
25 say that there was any case where there was a flagrant

1 violation of the areas of concern type of rules that
2 were set down; in other words, for most big streams
3 there was research on it, so it really wasn't necessary
4 to go and check it and find out the name of that stream
5 and check it in the areas of concern.

6 The type of things that we picked out
7 were some of the smaller lakes that don't have game
8 fish in it, what is their particular value, but most of
9 the areas of concern that we were able to identify
10 seemed to be all right. For the amount of the time it
11 took to try to find out where this area of concern was
12 located in the management unit, it didn't seem
13 worthwhile to check them any further.

14 Q. So in your view it was a difficult
15 task to try and associate a prescription for an area of
16 concern with the particular location on a map; is that
17 fair to say?

18 A. Very difficult.

19 Q. And in your view, had you reviewed
20 the comprehensive plans from cover to cover, do you
21 think you would have located that information or do you
22 know?

23 A. Of where it was and found it easier
24 in the field?

25 Q. Yes.

1 A. No.

2 Q. Now, Mr. Benson, would you agree with
3 me that the level of detail associated with current
4 timber management plans varies from management unit to
5 management unit?

6 A. By level of detail, you are referring
7 to the comprehensive plans, the site classification
8 systems, et cetera?

9 Q. No, I am referring to the plans
10 themselves. I think the Board has heard evidence about
11 various timber management plans and some of them are
12 quite short and many of them are very long, they have a
13 lot of information in them.

14 A. Oh, I see.

15 Q. You would agree that they are of
16 varying lengths and thereby they have a different level
17 of detail associated with them?

18 A. Varying length and vary format,
19 depending when they were written.

20 Q. Okay. And as a general proposition,
21 would you agree with me that plans should be prepared
22 in such a way that they can be understood and decisions
23 can be traced?

24 A. That's what I tell my students when
25 they write a student management plan, that the ideal

1 plan would be one that could be written that everyone
2 can understand, and ideally that's what a Ministry or
3 company management plan would be.

4 Q. And would you agree that the format
5 should be such that the plans should be comparable from
6 one management unit to another in terms of the topics
7 that are addressed?

8 A. For the most part. I'm sure you
9 would always find an exception where a management unit
10 has some special item to be considered.

11 Q. Sure. That's fine. Would you agree
12 with me that in order to understand what's happening on
13 any one management unit plans should provide a
14 sufficient level of detail such that it should not be
15 necessary for a reviewer to gather further information
16 beyond that contained in the plan and the accompanying
17 maps?

18 A. Yes.

19 Q. And would you agree that an exception
20 to that might be warranted where the plan itself
21 expressly directs a reviewer to examine other records
22 which, for whatever reason, aren't with the plan?

23 A. Yes, that would be reasonable.

24 Q. Okay. So there are circumstances
25 where there could be a proviso in there that not all of

1 this background data is actually with the plan, but the
2 plan itself will tell you where to go to obtain that
3 information?

4 A. Yes.

5 Q. Okay.

6 A. Basically it would be nice to read a
7 plan rather than to try to play detective on a plan.

8 Q. Could we turn again to the
9 interrogatory responses, Exhibit 1654. I have a few
10 questions of clarification in relation to the responses
11 that you gave.

12 Question 5 on the first page, the quote
13 from your evidence was:

14 "If the scale volume data is recorded by
15 site types a closer approximation could
16 be obtained."

17 We had asked:

18 "Please explain what was meant by site
19 types in the context of this statement."

20 Now, if we flip over to page 11 of the
21 responses, we see your response to the question which
22 is:

23 "In this context, site type would refer
24 to areas that require separate local
25 volume tables."

1 Now, are you referring in this response,
2 Mr. Benson -- when you say site types, are you
3 referring to site classes pursuant to the FRI working
4 groups or FEC classifications? I just was unclear as
5 to the response?

6 A. I think -- well, the site type in
7 this case would be the one that makes a difference in
8 the volume expected from a species of tree.

9 For example, poplar is a tree that can be
10 very site specific with respect to the amount that it
11 will grow, the rate at which it grows and with the rate
12 or amount of decay it will be effected by at a certain
13 age. So that you could have volumes associated with
14 poplar for specific sites to separate it that way.

15 I think it's something like what was said
16 in the previous panel. I was asked a question: Was I
17 aware that Industry had these type of relationships,
18 and I don't know that what their particular
19 relationships are. I haven't been able to determine
20 any of them.

21 I would presume some of them might have
22 them for a whole management unit, some might have it
23 for a certain part of the management unit where they
24 know what volume they can expect from a management
25 unit.

1 Now, how fine they divide it really
2 depends upon how important it is to know the volume
3 precisely.

4 Q. Now, I had a question of
5 clarification as well, Mr. Benson, with relation to
6 interrogatory No. 6. At page 2 of Exhibit 1654 we had
7 asked in relation to a statement you made at page 42 of
8 your Panel 5 witness statement:

9 "Please estimate by working group the
10 extent to which the land base in the area
11 of the undertaking is being reduced by
12 unplanned conversions."

13 And in your response you provide some
14 estimated conversions to other working groups and that
15 appears at page 11 of Exhibit 1654.

16 A. Yes.

17 Q. Now, in your response, Mr. Benson,
18 you say that balsam fir, poplar and white birch would
19 be the gaining working groups; is that correct?

20 A. Correct.

21 Q. And would you agree with me that if
22 one of the strategies in your timber management plan
23 was to discourage the growth of balsam fir, say, to
24 reduce the risk of budworm infestations, silvicultural
25 practices that resulted in unplanned stand conversion

1 to balsam fir would mean that you had failed in your
2 strategy?

3 A. Yes, it would.

4 Q. Okay. And would you agree with me
5 that unplanned conversions are more likely to occur
6 when sites are cut without planning your strategy for
7 natural regeneration or undertaking artificial
8 regeneration?

9 A. It's more likely you are going to
10 get -- well, you don't know what you are going to get
11 if you haven't planned it out, and it's more likely you
12 are not going to get what you should want for the
13 management of the management unit.

14 I should say those figures I gave are
15 really very rough estimates and it would vary across
16 the province and management unit by management unit.

17 MADAM CHAIR: Excuse me.

18 THE WITNESS: At this point when I
19 answered you I didn't know what numbers had such a high
20 significance.

21 MADAM CHAIR: Excuse me, Mr. Benson. Is
22 this for artificial and natural regeneration?

23 THE WITNESS: I was estimating on the
24 basis of how much of the area of a management unit,
25 both from artificial natural -- planned natural and

1 artificial natural would convert.

2 But, again, I stress those are my
3 guesstimates and if I was asked to give you a number
4 today I certainly wouldn't put a number down. I would
5 just say there are numbers there and you should try to
6 determine them more precisely for the management units.

7 MS. SEABORN: Q. If you are going to do
8 a stand conversion through the use of artificial
9 regeneration, that would be a planned conversion,
10 correct, as opposed to an unplanned conversion?

11 A. Yes.

12 Q. Because at the outset of your harvest
13 you are deciding what you want that site to come back
14 to?

15 A. Correct.

16 Q. Okay. Is it a fair summary of your
17 evidence that in your view on many management units
18 there are areas that are cut where there is no active
19 plan for either artificial or natural regeneration?

20 A. It's difficult to tie that down
21 exactly because of the way sometimes that the
22 silvicultural guidelines are written because some of
23 them cover almost every option for a given site.

24 So that some can be -- a given site might
25 be clearcut and planted or left for natural

1 regeneration. There is that many options within it.
2 In other cases, it might be obvious that that
3 particular area was not treated in the way that was
4 specified.

5 Q. Could you just have in front of you,
6 Mr. Benson, Exhibit 1643 and this was the summary that
7 Mr. Cassidy provided you yesterday in relation to the
8 Gordon Cosens Forest portion of your clearcut evidence.

9 Do you have that in front of you?

10 A. Yes, I do.

11 Q. I just want to be clear on the
12 terminology here and precisely what your evidence is,
13 Mr. Benson.

14 I took the area that's listed second from
15 the bottom, the 29,190 net hectares harvested as being
16 an example an area in your view that would be unplanned
17 natural regeneration, is that fair, as opposed to
18 planned natural regeneration or artificial
19 regeneration?

20 A. That's the way I would have
21 interpreted it.

22 Q. Okay. And just going back to the
23 numbers that you provided in the interrogatory response
24 with respect to balsam fir and birch being the gaining
25 working groups, would you agree with me that unplanned

1 natural regeneration will have a greater likelihood of
2 bringing a stand back to a species such as balsam fir?

3 A. I think that's a fair statement
4 because if you are planning it and you are putting some
5 efforts into it you are not going to try to get balsam
6 fir.

7 If you are relying on nature alone
8 without trying to design your harvest to take nature
9 into account, I think you will get more balsam fir. We
10 certainly have in the past.

11 Q. I have a question of clarification in
12 relation to our interrogatory question 9, which appears
13 at page 2 of Exhibit 1654.

14 Question 9(a) we had asked:

15 "To what extent is the success of
16 plantations a result of the existence
17 of volunteer conifer species."

18 Your response, which begins at page 13 of
19 the interrogatories, indicates that:

20 "This is extremely difficult to
21 estimate..." and you go on to say that
22 you cannot give an estimate of the extent of the
23 success of plantations as a result of the existence of
24 volunteer conifer species.

25 A. Correct.

1 Q. Would you agree with me that this
2 type of data is not routinely collected today?

3 A. To my knowledge it's not routinely
4 collected or collated and made available.

5 Q. Following from that, then, if it is
6 routinely collected, would it be fair to say that it is
7 not recorded in such a way that it can be found in a
8 timber management plan, to your knowledge?

9 A. I haven't seen that in any of the
10 management plans that we looked at.

11 Q. In your view would this sort of data
12 be useful to help determine silvicultural
13 effectiveness?

14 A. I think it would be very useful, yes.

15 Q. Now, the last interrogatory I want to
16 deal with is MOE question 12 which appears on page 3 of
17 Exhibit 1654, and we had asked:

18 "Under what circumstances and on what
19 site types this scarification...
20 unnecessary and uneconomical treatment."
21 Your response appears at page 15 to
22 Exhibit 1654.

23 Now in the response, Mr. Benson, you list
24 certain sites where in your view scarification is
25 unnecessary; correct?

1 A. Correct.

2 Q. Okay. Now, I wanted to understand
3 from you whether or not your response in relation to
4 scarification would be the same regardless of the size
5 of the clearcut we were talking about.

6 Is your response in relation to
7 scarification linked at all to size of clearcuts?

8 A. That's difficult to say. What's held
9 me up is the start of it where I say that:

10 "Scarification is unnecessary on sites
11 where harvesting has compacted the moss
12 layer or exposed mineral soil to allow
13 for natural regeneration of spruce and
14 black jack pine respectfully."

15 I'm not too sure with the larger clearcut
16 just what the effect of the compacted moss layer would
17 be, whether it would be beneficial or not, but for the
18 most part I would say it would apply across the board.

19 Q. So we can take then your
20 interrogatory response in relation to scarification to
21 apply regardless, generally, regardless to the size of
22 clearcut we are talking about?

23 A. Yes, generally.

24 Q. Okay. I want, Mr. Benson, to return
25 to your evidence in relation to goals and objectives.

1 Is it a fair summary of your position that both timber
2 and non-timber objectives should be set at the outset
3 of preparing a five-year timber management plan?

4 A. That's correct.

5 Q. And the objectives should be,
6 wherever possible, quantified?

7 A. Correct.

8 Q. Now, FFT has proposed in its terms
9 and conditions that MNR should during the first five
10 years of the approval developing new planning process
11 called an integrated forest management planning
12 process; correct?

13 A. That's correct.

14 Q. And I understand that the details of
15 that approach will be the subject of Panel 10, but I
16 take it that that process would also require that clear
17 goals and objectives for both timber and non-timber
18 resources be set?

19 A. That's correct.

20 Q. So regardless of whether the Board
21 determines that an integrated forest management
22 planning process be developed by MNR, in your view
23 clear statements of timber and non-timber objectives
24 should be a requirement of the present planning regime?

25 A. Yes.

1 Q. Now, in FFT's terms and conditions,
2 specifically term and condition No. 26 -- that, Madam
3 Chair, is at page 21 of Exhibit 1610.

4 MS. SWENARCHUK: You may be aware or you
5 may not be that this term and condition will be subject
6 of the wildlife biodiversity panel.

7 MS. SEABORN: I understand that, Ms.
8 Swenarchuk.

9 I want to ask Mr. Benson a few questions,
10 though, about how this term and condition fits in with
11 the current planning process. I understand it will be
12 discussed in detail in a future panel, but Mr. Benson I
13 think is your main witness in relation to current
14 timber management planning processes.

15 Q. Now, at page 21 of the terms and
16 conditions, Mr. Benson, there is a requirement that MNR
17 develop and implement what is called a landscape
18 planning and management system within five years of the
19 approval.

20 Do you see that? It is term and
21 condition 26(1).

22 A. I don't see the five-year.

23 Q. On page 21 of FFT's terms and
24 conditions.

25 A. Oh, I'm sorry.

1 Q. Do you see 26(1).

2 A. I was looking too far.

3 Q. The first sentence refers to five
4 years.

5 Now, as I understand this term and
6 condition, the landscape planning and management system
7 would be developed across the area of the undertaking
8 and would be used in timber management planning by the
9 unit forester and the planning team to identify and
10 evaluate landscape patterns resulting from timber
11 management activities; is that correct?

12 A. My understanding is it would be used
13 as a planning device to help implement timber
14 activities or other activities on the area to determine
15 what type of management you want to retain or change
16 those particular areas.

17 Q. Am I correct that the analysis would
18 be done during the preparation of a timber management
19 plan for each management unit every five years?

20 A. That's correct.

21 Q. Now, the term and condition also says
22 that:

23 "MNR shall use the landscape system to
24 evaluate landscape patterns resulting
25 from the proposed activities and their

1 alternatives."

2 Now, am I correct, Mr. Benson, that what
3 is being proposed is that work that is normally done
4 now as part of the annual work schedule, for example,
5 laying out cut patterns, would be done under your
6 system at the five-year planning stage?

7 A. I think they are not -- it's more
8 than that. I think it is also looking at the
9 activities for the whole five-year plan, what effect --
10 what changes they would have on the area.

11 Q. I'm sorry, I didn't hear that last
12 sentence.

13 A. What changes the five-year plans
14 would have on the area.

15 Q. And I guess my question is that it
16 appears to me from reading this term and condition then
17 that what is contemplated is that the activities that
18 are now identified on a yearly basis in the annual work
19 schedule would be dealt with at the beginning of the
20 five-year planning process procedure.

21 Is that what you have in mind by that
22 term condition and condition?

23 A. Yes. I'm not an author of these
24 particular terms and conditions and I don't feel really
25 qualified to speak in that depth on them.

1 Q. Okay.

2 Q. Now, you said to me, though, it was
3 your understanding that activities for the whole
4 five-year plan would be dealt with at the outset of the
5 planning process?

6 A. Correct.

7 Q. Would you agree that that would
8 necessitate a determination of preferred silvicultural
9 treatment packages for the management unit at the
10 five-year stage?

11 A. That's correct.

12 MR. MARTEL: Can I ask a question. Are
13 you suggesting that the annual work schedule - in fact
14 it sounds like it - you wouldn't need it, that
15 everything is going to be laid out in the five-year
16 plan as opposed to the annual work schedule?

17 In other words, are we planning for five
18 years and putting precisely what we are going to do for
19 the five years right up front?

20 THE WITNESS: In essence that's what
21 happens now to a certain extent. They do a plan for
22 five years and then do an annual plan.

23 MR. MARTEL: Which is much more detailed?

24 THE WITNESS: Which is much more
25 detailed. There are different approaches to it.

1 New Brunswick, for example, does a
2 five-year plan but they do it every year. So they are
3 always planning five years in the future. There are
4 advantages to that because you are always planning into
5 the future.

6 The disadvantage of the present system
7 when you look at five year blips, when you get to that
8 fifth year there is a flurry of activity of writing and
9 scrambling and gathering of data trying to put together
10 the next plan, and I think you can lose something in
11 the link up instead of having it as an ongoing process.

12 With those five year changes, I think you
13 lose something in the management of the area.

14 MR. MARTEL: Is that what's being
15 recommended here then, an annual --

16 THE WITNESS: No, it's not.

17 MR. MARTEL: No.

18 MS. SEABORN: Perhaps if I could just
19 follow-up, Mr. Martel, on your question.

20 Q. Mr. Benson, wouldn't the annual work
21 schedule still be necessary in order to determine when
22 you were going to carry out an activity as opposed to
23 what activity you were going to carry out?

24 A. Yes, you still need the annual work
25 schedule because your schedules are going to, I would

1 presume, would change each year, too, just because of
2 contingencies, that what you planned to do in one year
3 you may have to delay for the next year.

4 MADAM CHAIR: Excuse me. Do you agree,
5 Mr. Benson, that there is also a value to the public
6 with respect to the annual work schedule?

7 We have had evidence that five-year
8 timber management plans are difficult for the public to
9 conceive of and often they are alerted to something of
10 interest to them when they see the notice of an annual
11 work schedule?

12 THE WITNESS: Quite often people are most
13 interested when it affects their particular area of the
14 woods and that can be at the annual planning stage
15 where they might want to have their input into the plan
16 because that's the level where they became aware of
17 what's going on and they should be aware of it and have
18 involvement in that plan.

19 MS. SEABORN: Q. Just following up from
20 that, Mr. Benson, would you agree with me, though, if
21 you are laying out your preferred silvicultural
22 prescriptions and including preferred regeneration
23 methods at the five-year planning stage, that would
24 provide the public with an indication of the timber
25 management activities being proposed on specific

1 geographic areas that may be of interest to them?

2 A. Yes, it does, but you can get the
3 situation where somebody has been missed or some
4 concern has been missed and it has to be taken in -- or
5 it should be taken into account at a later date than
6 the five-year plan.

7 Q. That's right. There is always going
8 to be modifications or tinkering that you may want to
9 deal with in your plan, but as a general proposition is
10 it fair to say that your objective is to move some of
11 the details associated with an annual work schedule to
12 the five-year planning stage?

13 A. If you are working at the landscape
14 planning part, I would think it would shift a fair bit
15 of it that way from the point of view of looking after
16 the timber resource and the wildlife resource.

17 Q. And just one last question on this
18 term and condition so that I can understand it.

19 Is this a term and condition that Forests
20 for Tomorrow is proposing the Board adopt regardless of
21 what position the Board takes in relation to integrated
22 forest planning based on the U.S. model?

23 A. I can't answer that question.

24 MS. SEABORN: Perhaps Ms. Swenarchuk
25 could give us an indication prior to Panels 9 and 10 in

1 relation to these areas. I would like to understand
2 before that evidence the extent to which adoption of
3 this term and condition relates to adoption of the term
4 and condition in relation to the U.S. model.

5 MS. SWENARCHUK: Okay.

6 MS. SEABORN: Thank you.

7 Q. Mr. Benson, is a fair summary of your
8 evidence that in your view the OWOSFOP is not the best
9 predictive tool or method of determining allowable cut?

10 A. It predicts area okay, but in the
11 past it has been used for predicting volume, although I
12 have noticed that some of the models have been adopted
13 to give volume estimates.

14 Q. And based on your testimony in
15 relation to OWOSFOP volume fluctuations, I take it you
16 have concerns about the assumptions that are used in
17 the OWOSFOP calculation?

18 A. Yes and I outlined those in one of my
19 chapters in part 1.

20 Q. That's right. There has been a
21 variety of -- there has been a considerable amount of
22 evidence in this hearing in relation to assumptions,
23 for example, of the amount of productive forest land
24 that is lost to timber production.

25 Are you familiar with those references?

1 A. Within the hearing itself?

2 Q. Yes. I can provide you with an
3 example. There is a figure in the forest production
4 policy of 1972 where there was an assumption made that
5 5 per cent of productive forest plan was lost to roads
6 and landings. There have been a variety of figures of
7 how much land we have lost.

8 A. Yes, okay. I see what you are
9 driving at. Yes, I am familiar with some of those
10 figures.

11 Q. In your testimony you referenced an
12 article which estimates a reduction of 12 per cent of
13 productive forest land to account for the loss to
14 insect, disease, fire, roads and reserves; correct?

15 A. Correct.

16 Q. In relation to site damage, you
17 stated that Ontario didn't have any hard estimates but
18 that based on a report from British Columbia there
19 could be an estimate made in the area of 20 per cent of
20 the area harvested? That's a reference at page 137 of
21 your evidence.

22 A. Yes, I misread. That was -- the 20
23 per cent was for the Province of British Columbia.

24 Q. That's right.

25 Q. Would you agree with me, Mr. Benson,

1 that regardless of the predictive tool that is used,
2 whether it is OWOSFOP or FORMAN or some other model or
3 tool, we need better assumptions to plug into whatever
4 tool we decide to use?

5 A. By better assumptions, you mean
6 assumptions with respect to the timber you are
7 producing or what you are using the area for?

8 Q. I don't want to repeat your
9 evidence-in-chief, but you had made some criticisms in
10 your testimony as to the assumptions that are used in
11 the OWOSFOP model.

12 What I am suggesting is that no matter
13 what predictive tool we use, if we don't deal with some
14 of the problems with the assumptions, then we may not
15 be any further ahead in the long run?

16 A. That's true. I think you can take it
17 further than that. The first step really is to define
18 the direction you want to go for particular goals, and
19 then how can you proceed to get towards them and that's
20 where your assumptions would come in and your models,
21 just how do you feel that your particular models are
22 going to get you towards those aims or objectives.

23 MADAM CHAIR: Ms. Seaborn, do you want to
24 break for lunch or are you middle of...

25 MS. SEABORN: If I could ask one question

1 and then I would be delighted to have lunch.

2 MADAM CHAIR: All right.

3 MS. SEABORN: Q. Could you turn, Mr.

4 Benson, to page 184 of the Timber Management Planning
5 Manual which is Exhibit 7.

6 Does the Board have its manual?

7 MADAM CHAIR: Yes.

8 MS. SEABORN: Q. Page 184, which is part
9 of Appendix B that deals with the MAD calculation. You
10 will see under paragraph 6.2.3, Item 2. The sentence
11 says:

12 "For forest management agreement areas
13 OWOSFOP is the only accepted official
14 means of calculating the MAD."

15 Now, Mr. Benson, Mr. Cassidy asked you
16 some questions this morning in relation to the OWOSFOP
17 tool and talked about a company in particular using the
18 FORMAN.

19 Would you agree with me that the Timber
20 Management Planning Manual should be amended to remove
21 the requirement that OWOSFOP be the only acceptable
22 method of calculating the MAD for FMAs?

23 A. Yes, it should and I think it is
24 somewhere within the manual because I know I have seen
25 it written down. Do you want me to read it over lunch?

1 Q. If you could point me to where it is
2 referred to elsewhere we can deal with that after
3 lunch. I don't think it's necessary.

4 My only point is that that's a
5 requirement of the current Timber Management Planning
6 Manual that appears to be at odds with your testimony
7 and, in fact, what Industry would like to be doing
8 now -- is doing now--

9 MR. FREIDIN: No.

10 MS. SEABORN: --and would like to be
11 doing in the future.

12 Well, Mr. Freidin, Mr. Cassidy --

13 MADAM CHAIR: Do you have an objection,
14 Mr. Freidin?

15 MS. SEABORN: Mr. Cassidy asked --

16 MR. FREIDIN: I apologize, Madam Chair.
17 I apologize.

18 MS. SEABORN: I think the point is made,
19 Madam Chair, and I can advise the Board that I will
20 probably be well under an hour after the lunch break.

21 MADAM CHAIR: Thank you very much, Ms.
22 Seaborn.

23 Mr. Freidin, you will be ready to take
24 over.

25 MR. FREIDIN: Yes, Madam Chair.

1 MADAM CHAIR: Thank you.

2 ---Luncheon recess at 12:00 p.m.

3 ---On resuming at 1:40 p.m.

4 MADAM CHAIR: Please be seated.

5 MS. SEABORN: Good afternoon, Madam
6 Chair, Mr. Martel.

7 Q. Mr. Benson, I want to deal briefly
8 with the topic of growth and yield. Could you please
9 turn to page 73 of Volume I of your witness statement,
10 which is Exhibit 1604A.

11 Now, you prepared a table showing the
12 average volume per hectare for management units across
13 Ontario, and if we go to the last page of Table 5-1,
14 which is on page 76, you arrived at an average of 113
15 cubic metres per hectare for the province; is that
16 correct?

17 A. That's correct.

18 Q. And I've had a conversion done of
19 that figure to cunits per acre, and I understand that
20 that figure would be approximately 15.82 cunits per
21 acre. Does that sound reasonable to you?

22 A. Sounds reasonable.

23 Q. The Forest Production Policy
24 estimated yields of 10 cunits per acre from natural
25 stands and 20 cunits per acre from artificial stands.

1 Are you familiar with that evidence?

2 A. Yes, I am.

3 Q. And in your witness statement you
4 took the position that Industry estimates were overly
5 optimistic and yesterday, you'll recall, Mr. Cassidy
6 asked you some questions to clarify Industry's position
7 in relation to the 71 cords per acre figure.

8 A. Yes.

9 Q. Mr. Cassidy had some concerns about
10 you using that figure as a figure for across the
11 province; correct?

12 A. Correct.

13 Q. Now, would you agree with me that
14 given the variety of figures that have been used to
15 estimate yields, what really is required is a better
16 database?

17 A. Better database yield estimates for
18 the province, yes.

19 Q. Now, Forests for Tomorrow, in fact
20 MNR, MOE and the Industry have all proposed in their
21 terms and conditions that further information needs to
22 be developed on forest growth and yield; is that
23 correct?

24 A. I wasn't aware that everybody agreed
25 on something, no.

1 MR. MARTEL: Can we take that one off the
2 table?

3 MS. SEABORN: Q. I think it's fair to
4 say, Mr. Benson, at least from my client's perspective
5 at this point, there appears to be general agreement at
6 least amongst those parties that further information
7 needs to be developed on forest growth and yield, and I
8 take it you would agree with that?

9 A. I would agree with that.

10 Q. And, in your view, is this work that
11 we should be proceeding with now?

12 A. I think it's work that could be
13 proceeded with now and some of that work has already
14 been carried out, I think it's a matter of putting it
15 together across the province in an organized manner.

16 Q. And, in your view, is there any
17 reason to delay in putting this information together in
18 an organized fashion across the area of the
19 undertaking?

20 A. I don't see any reason to delay, no.

21 Q. Thank you. Now, in terms of
22 understanding what the new forest would look like,
23 would you agree that if we're harvesting black spruce
24 stands, for example, let's say 80 per cent stocked at
25 the time of harvest, and they return to the inventory

1 as 40 per cent stocked black spruce stands, it would be
2 important in terms of understanding the new forest to
3 have information about that differential?

4 A. Yes. It's not quite -- you've
5 probably got a fairly good estimate of the 40 per cent
6 when it was mature, the problem I think is estimating:
7 Where does a plantation go to, how does a plantation
8 develop, what stocking can you expect in the future
9 from a plantation of a certain stature at this time, or
10 a certain stocking.

11 Q. And even though an area in terms of
12 black spruce may not change in the new forest, the
13 yield from that area may change depending on the
14 stocking?

15 A. The stocking can affect the yield
16 from a stand, yes, of a species.

17 Q. Yes. So an understanding of stocking
18 is also important as well in the context of better
19 growth and yield data?

20 A. Yes. I guess I use stocking in two
21 senses when I talked to there; one, I said stocking for
22 the mature stand which is normally -- or can be a
23 measurement of basal area compared to the normal yield
24 tables, and stocking as used for regeneration which can
25 refer to the, basically the number of trees per

1 hectare.

2 Q. I guess the point is that the
3 stocking may be higher or lower from a particular area,
4 but we just don't know unless we do further
5 investigation?

6 A. You're talking of the mature stand
7 now, or --

8 Q. Talking about in terms of the
9 stocking that we get back from the new forest. We may
10 do better than we had in the old forest; we may do
11 worse, but at this point our database is such that we
12 don't know?

13 A. That's right. You need a link
14 between the stocking of the plantation -- I made a
15 mistake. Stocking of a plantation is a per cent figure
16 not a number figure usually, per cent stocking, but you
17 need a link between that stocking level of a plantation
18 and what type of forest is it going to develop into.

19 Q. Can we have a look, Mr. Benson, at
20 Forests for Tomorrow's terms and conditions again, page
21 15.

22 Part way down page 15 we have Roman
23 numeral (ix) that refers to Forests for Tomorrow's
24 silvicultural prescriptions and, in particular, this
25 one states that:

1 "Silvicultural prescriptions shall...",
2 and Roman numeral (ix) states:

3 "not permit productive forest land to be
4 harvested and left untreated."

5 Am I correct to interpret this term and
6 condition to mean that all areas that are harvested
7 must be done so with a particular plan for renewal in
8 mind?

9 A. That's the intent of that.

10 Q. And in the context of extensive
11 forestry, that would be planned natural regeneration?

12 A. That's correct.

13 Q. Are you familiar, Mr. Benson, with
14 MNR's evidence in relation to what has been termed the
15 cut and walk away area?

16 A. No, I'm not.

17 Q. Is the rationale behind this term and
18 condition, Mr. Benson, also to put a restriction on
19 harvesting areas that would come back in your column
20 that you refer to as unplanned natural regeneration?

21 A. That's correct.

22 Q. And, in particular, I'm referring to
23 your Exhibit 1611 which was adapted from Figure 6.5 of
24 your witness statement. This was the area of Crown
25 land cut from 1978-1988 and type of treatment received.

1 A. And that was based on the data for
2 the four northern regions, I believe.

3 Q. Yes.

4 A. Yes.

5 Q. And what I'm asking you is: Is the
6 intent behind this term and condition not to have areas
7 harvested that are depicted in this figure as unplanned
8 on the far right-hand side of Exhibit 1611?

9 A. That's right, they would move over to
10 the planned side of the graph.

11 MADAM CHAIR: Excuse me, Mr. Benson.
12 With respect to being able to recognize what planned
13 verus unplanned natural regeneration is, in the case of
14 a situation where a forester decided to do a certain
15 type of regeneration, a certain site preparation and
16 then natural regeneration and then found out that he or
17 she didn't have the money in the budget to do very much
18 of anything so they would have to just leave it to
19 naturally regenerate, do you see that as a planned or
20 an unplanned --

21 THE WITNESS: That would be a contingency
22 plan, I think, and whether it came back or not might
23 determine whether you -- what you do in the future with
24 that area. If it was artificial regeneration, perhaps
25 you'd have a budget next year then to carry on with

1 your original plan.

2 MADAM CHAIR: Mm-hmm.

3 MR. MARTEL: Under such circumstances
4 would the smaller the cut the more chance of success
5 for regeneration then to what was there previously?

6 THE WITNESS: I don't think you can say
7 there's a direct relationship that way, but when we put
8 together the silvicultural guidelines for the terms and
9 conditions for Forests for Tomorrow one of the guiding
10 concepts was the distance the seed could travel from
11 the mature tree, the average distance it could travel.

12 So that we're considering that your
13 chances of getting regeneration of the desired tree
14 would be greater, but I don't think it's a direct line
15 relationship the closer -- or the narrower, the
16 narrower you would have a strip the chances of getting
17 the trees that were there before, I don't think your
18 chances would necessarily increase directly. I don't
19 know what the exact relationship would be.

20 MS. SEABORN: Q. Mr. Benson, Forests for
21 Tomorrow has a number of terms and conditions in
22 relation to data collection and monitoring.

23 Would you agree with me that in order to
24 evaluate the effects of timber management we need to
25 know what was on the land base in terms of both timber

1 and non-timber values prior to man's intervention?

2 A. Yes, I'd agree with that.

3 Q. And there's a certain amount of
4 information that should be gathered prior to operations
5 if you want to make informed decisions in relation to
6 your timber management activities of access, harvest,
7 renewal and maintenance?

8 A. Yes.

9 Q. And we can't stop all the activities
10 in the forest while we gather further data; can we?

11 A. No, we can't.

12 Q. And I don't think, to be fair, that's
13 Forests for Tomorrow's position in this hearing at all.

14 Now, is it fair to say that the effects
15 of timber management can best be evaluated by initially
16 collecting data at the stand level, including
17 information for a management unit, and then monitoring
18 prescriptions that are actually carried out on that
19 management unit?

20 A. From the point of view of timber
21 management solely?

22 Q. I guess in terms of the effects of
23 timber management, we have to initially collect data,
24 but while we're collecting that data another thing that
25 we should be doing is monitoring the actual

1 prescriptions or timber management activities that are
2 being carried out on a particular management unit?

3 A. Yes, it should be monitored and put
4 into some usable form that would be of use to the
5 forester and foresters in the future.

6 Q. Were you involved in preparing FFT's
7 term and condition No. 39 in relation to local
8 monitoring? That appears beginning at page 44 of FFT's
9 terms and conditions, the heading is Plan Monitoring.

10 MR. MARTEL: Page 33?

11 MS. SEABORN: Page 33 of FFT's terms and
12 conditions, Mr. Martel.

13 THE WITNESS: No.

14 MS. SEABORN: Ms. Swenarchuk, is there a
15 particular witness who's going to be speaking to the
16 monitoring aspects of your terms and conditions?

17 MS. SWENARCHUK: My colleague informs me
18 that our witness on this issue, I guess will be Mr.
19 Smith.

20 MS. SEABORN: Thank you.

21 MS. SWENARCHUK: Or perhaps Mr. Lindgren
22 at some point.

23 MS. SEABORN: That will be interesting.

24 Q. Mr. Benson, there has been
25 considerable discussion during your testimony with

1 respect to the concept of holistic management, whereby
2 you're advocating the optimization of forest resources
3 for all users of the forest.

4 A. Yes.

5 Q. Would you agree with me that the
6 adoption of an approach whereby forest resources are
7 optimized for all users of the forest does not, in all
8 cases, preclude the use of constraint management?

9 A. Well, when you actually are trying to
10 optimize the forest for all users, that is a constraint
11 in itself that you're imposing upon the forest.

12 Q. Well, let me give you an example.
13 Constraints would still be required in a context of
14 timber management planning to prohibit certain actions
15 such as cutting down an eagle's nest, or you cannot by
16 legislation degrade water quality; those are examples
17 of constraints?

18 A. Yes, constraints for specific items
19 like that could still exist.

20 Q. And I don't know whether you can
21 answer this or not for me, Mr. Benson: Is it a
22 necessary pre-condition to the adoption of FFT's new
23 planning system, based on the U.S. model, that the
24 province be divided into forest management units in
25 such a way that timber management units would have the

1 same geographic boundaries as, for example, wildlife
2 management units?

3 A. I'm not sure if the terms and
4 conditions state that specifically, but that would
5 certainly be a convenient way of trying to manage
6 multiple resources.

7 Q. In your view, could we accomplish the
8 same objective without realigning the land base through
9 the wide-spread use of GIS or equivalent technology?

10 A. You could as far as keeping track of
11 the data, it would make it a little more complex when
12 it came to decision-making because you would have one
13 database stretched over two other databases which
14 would -- if you're going to make a decision then on one
15 database, it's going to carry over into the other
16 database area.

17 Q. Just a couple of more questions, Mr.
18 Benson. Would you agree, Mr. Benson, that free to grow
19 and five-year stocking results are only a short-term
20 measure of regeneration success?

21 A. Meaning that you don't --

22 Q. If you stop your monitoring at free
23 to grow or with five-year stocking results and those
24 results tell you you're successful, would you agree
25 that that's just a short-term measure of success?

1 A. It is. It's still a ways to go
2 before you have a stand of trees there.

3 Q. There's still a long way to go before
4 we're at another stand that we can harvest?

5 A. Right.

6 Q. Now, in your written evidence at page
7 142 at the top of the page just beneath the quote you
8 state that:

9 "Short rotations combined with intensive
10 biomass utilization may create problems
11 of reduced soil fertility."

12 Do you support the view, Mr. Benson, that
13 shorter rotations can have detrimental environmental
14 effects, for example, nutrient depletion?

15 A. They may have. The problem is it's a
16 may type of situation at the present time. There seems
17 to be arguments on both sides of the -- for a manager,
18 the approach I would take is the conservative approach
19 until it's proven otherwise conclusively.

20 Q. Now, if a harvesting technique were
21 used in the future that resulted in younger stands,
22 say, for example, 50-year old stands being harvested
23 across the area of the undertaking, would you have
24 concern in relation to long-term site productivity?

25 A. I think on some sites I would,

1 particularly if it was a shallow site.

2 Q. Well, let's restrict the question
3 then to sites that have been termed as nutrient poor
4 sites.

5 A. Or a nutrient poor site. If it's a
6 nutrient poor site and you're working with a shorter
7 rotation, I would expect that you may have some
8 problems on that site.

9 Q. And if you had a nutrient poor site
10 or a site that was sensitive for whatever other reason
11 and it was being harvested at a shorter rotation, would
12 you have concern about environmental effects to that
13 site?

14 A. If it wasn't being --

15 Q. If it was harvested at shorter
16 rotation periods?

17 A. On a nutrient sensitive site?

18 Q. Yes.

19 A. I think you would have some concern
20 and really try to narrow it down to determine: Is
21 there going to be a detrimental effect on this site or
22 not.

23 Q. And if we were going to have a
24 harvesting technique that resulted in stands being
25 harvested at a shorter rotation, monitoring of those

1 stands would be critical; wouldn't it?

2 A. Identification and monitoring of
3 them.

4 MS. SEABORN: Madam Chair, I had some
5 questions in relation to plan monitoring. It's my
6 understanding the way FFT's terms and conditions are
7 set up that the provisions they had proposed to the
8 Board in relation to monitoring would apply whether or
9 not the Board adopts FFT's new proposal in relation to
10 the U. S. model, and given Mr. Lindgren has advised
11 that one of the witnesses in Panel 10 will be giving
12 that evidence, I think I will save those questions for
13 that time.

14 But I do want the Board and FFT to be
15 aware that I would like to deal with monitoring during
16 that panel, and if that's not appropriate, I'd like to
17 know now and I'll deal with it now.

18 MS. SWENARCHUK: That's all right, Mr.
19 Lindgren?

20 MR. LINDGREN: That's fine by me.

21 MS. SEABORN: Thank you.

22 MS. SWENARCHUK: He's ready to answer
23 your questions.

24 MS. SEABORN: Those are all my questions,
25 Madam Chair.

1 MADAM CHAIR: Thank you, Ms. Seaborn.
2 The Board appreciates your expeditious
3 cross-examination.

4 MR. FREIDIN: Ten minutes to set up?

5 MADAM CHAIR: Yes, Mr. Freidin.

6 MR. FREIDIN: Oh, I should advise parties
7 that Volumes 168 and 169, I'll be referring to those
8 as well as those volumes that are on my little piece of
9 paper. I think the Board was advised.

10 MADAM CHAIR: We have them here.

11 ---Recess at 2:10 p.m.

12 ---On resuming at 2:30 p.m.

13 MADAM CHAIR: Please be seated.

14 Mr. Freidin?

15 CROSS-EXAMINATION BY MR. FREIDIN:

16 Q. Mr. Benson, I noted in reviewing your
17 witness statement that there were some areas that you
18 deal with which are also dealt with in later chapters,
19 I'm thinking particularly of Panel 7 in relation to the
20 subject matter of net present value, Panel 8 in
21 relation to wildlife matters.

22 Would you accept that the expertise of
23 the witnesses in those panels is greater than yours in
24 relation to those three subject matters; for instance,
25 economists would have greater expertise in relation to

1 net present value matters, the wildlife experts would
2 have more expertise in relation to wildlife-related
3 issues than yourself?

4 A. Yes. Yes, I'd agree with that, with
5 the economists to view -- value things a little bit
6 different. I don't think it makes anything in the
7 answer, he uses more of a residual value for stumpage,
8 whereas I was using actual stumpage return to the Crown
9 in my type of analysis, and he considers his analysis
10 based on that residual value, but basically they're the
11 same type of work, and he has more expertise than I in
12 that particular area.

13 Q. All right. Would it be fair to say
14 that if there is - if there is, and I'm not saying
15 there's going to be - but if there is a conflict
16 between, for instance, your evidence in relation to a
17 wildlife-related issue and one of the experts in Panel
18 8 on that issue, that you would defer to their opinion
19 because of their greater expertise?

20 A. I would.

21 Q. And you had a discussion earlier
22 about your expertise in the areas of fisheries resource
23 matters and wildlife resources, Mr. Cassidy dealt with
24 that.

25 On each of the Ministry of Natural

1 Resources Panels 7, and 10 through 17, there was at
2 least one biologist, in some cases two - when there was
3 two, there was a fisheries biologist and a wildlife
4 biologist - and I assume that the same would be true
5 for their evidence as is true for the evidence of the
6 wildlife experts in FFT's Panel No. 8; that is, to the
7 extent that your evidence might conflict with theirs on
8 issues in relation to fisheries management, water
9 quality issues and wildlife management issues, that you
10 would defer to their opinion because of their greater
11 expertise?

12 A. I think it's safe to say, yes, I
13 would do that.

14 Q. Thank you. Mr. Benson, during the
15 discussion regarding the leave time for certain
16 cut-overs you made the comment that:

17 "With jack pine I have seen more cones
18 produced on poor sites."

19 Do you recall that line of questioning?

20 A. That line of questioning, no, I don't
21 recall that.

22 Q. All right. Could you tell me, is
23 there any relevance to there being -- or what relevance
24 is there to there being cones when you're talking about
25 jack pine regeneration?

1 A. The question was about cone
2 production and so on, and on a poor site you wouldn't
3 get as many cones produced, but I think I was
4 responding that on a poor site you may actually get
5 more cones produced.

6 Q. All right. And you're taling about
7 more cones being produced on a poor site in relation to
8 the timber which was standing there and growing on that
9 poor site?

10 A. Right.

11 Q. And that comment was made in relation
12 to a discussion about the amount of standing timber you
13 would leave between cuts when you were using a two- or
14 three-coupe system?

15 A. Right.

16 Q. My question for you is: What is the
17 relevance of the number of cones which are produced on
18 standing jack pine when you're considering the issue of
19 natural regeneration of the cut-over when you're using
20 a strip cut?

21 A. Well, you possibly could get some
22 regeneration from the tree itself if any of the cones
23 fall from the standing tree onto the cut-over area, but
24 primarily I would think it would be for protection of
25 the site.

1 Q. But the cones have nothing to do with
2 protection of the sites -- I mean, with the
3 regeneration in terms of the seed source?

4 A. They wouldn't be the primary seed
5 source, no.

6 Q. Can we agree that jack pine cones do
7 not seed from standing mature jack pine?

8 A. You can get some seed from mature
9 pine, but not a great deal.

10 Q. Okay. You gave evidence in relation
11 to your clearcut exercise that you did some ground
12 truthing of the areas that were shown in the landsat
13 photography?

14 A. Correct.

15 Q. Can you just explain to me what
16 exactly that involved?

17 A. Basically what I was trying to do was
18 to relate what I saw on the ground to the landsat
19 photographs, so that if there was a pinkish area, what
20 was the relationship of that pink area to what was on
21 the ground; or if it was a white area, what was the
22 relationship of that white area to what was on the
23 ground; a light green, possible, tried to relate it
24 that way; dark green, what did that relate to.

25 In addition actually to the ground

1 truthing that way, I also used, where we had it, any
2 inventory maps to relate it to the photographs, that
3 way too, in basically the same way you do with aerial
4 photography, where you can't sample all the ground
5 area, but get some samples and extrapolate from that.

6 Q. Now, Mr. Benson, I want to ask you a
7 series of questions - it's probably going to take up
8 most of the afternoon - in relation to your evidence
9 regarding OWOSFOP and the MAD calculations, and the
10 areas that I'm going to deal with are as follows:

11 It's your evidence that you're concerned
12 about the volume calculations over time when you use
13 OWOSFOP, I want to deal with your evidence regarding
14 the change from area regulation to volume regulation, I
15 want to deal with you in relation to your evidence
16 regarding the linkage between area and volume when area
17 regulation is used, and those are generally the subject
18 matters.

19 Now, Dean Baskerville appeared before the
20 Board and gave considerable evidence on a number of
21 subject matters including this area of OWOSFOP and MAD
22 calculations, and could you please turn to Volume 164
23 of the transcript.

24 MS. SWENARCHUK: I have that volume.
25 (handed)

1 MR. FREIDIN: Q. Page 29107. And right
2 at the top of the page, line 2, he was asked:

3 "As part of your work were you able to
4 determine the source of that, where it
5 originally came from, the concept?"

6 We're talking about area regulation. And
7 he said:

8 "It's essentially a European approach,
9 well-documented, probably with a century
10 of experience in some central European
11 forests, some German forests would have a
12 century of that kind of management in
13 them."

14 Then he goes on to comment that it's used
15 in Ontario only. Do you agree with the accuracy of
16 Dean Baskerville's evidence in that regard?

17 A. With the two points; one, the
18 European origin and, two, the fact that it's not used
19 in other provinces?

20 Q. Yes.

21 A. I'd agree it is a European origin, I
22 don't know whether it's central European or German, but
23 it's European; No. 2...

24 Q. Do you know, based on your work, in
25 the area that you deal with -- if you're having trouble

1 answering the second part of the question because you
2 don't know, that's fine.

3 A. I'm just trying to remember the
4 provinces. And the ones that I don't know for sure
5 what they're using now are Manitoba and Saskatchewan.

6 Most of the other ones - Quebec too gives
7 me a problem - most of the other ones, as far as I
8 know, have switched to some type of volume method.

9 Q. All right. Could you turn -- keep
10 that volume in front of you, could you also take Volume
11 169, page 30006. All right. Do you have that?

12 A. I do.

13 Q. Line 4, Dean Baskerville says:

14 "The approach to forest management that
15 was defined at that time...", he's
16 talking about the time of his audit in the manual,
17 "...and persists, was area regulation
18 which it would be difficult to argue with
19 as a sound approach. You can argue about
20 what you attach to area regulation in
21 terms of calculating volume performance,
22 but increased area regulation is an
23 accepted and acceptable approach to
24 management."

25 Do you agree or disagree with Dean

1 Baskerville in relation to that subject?

2 A. I guess I would have to say that I
3 take the approach that it's difficult to argue.

4 Q. Okay. Why is it difficult to argue
5 with it, because it's right?

6 A. I don't think there's a right or a
7 wrong to it, it's a difference of approach and what you
8 want to accomplish with it.

9 Q. All right. You have indicated a
10 concern about the area volume linkage, and we will in
11 fact investigate that issue, but I take it that you
12 have no dispute regarding -- or difficulty accepting
13 what Dean Baskerville said in the quote that I just
14 referred you to, that in fact--

15 A. Well, I do...

16 Q. --area regulation is an acceptable
17 approach to management?

18 A. I think he's probably talking about
19 as a result of his survey of Ontario. I believe he
20 said something about that when he did his audit.

21 Q. All right. Well, let's put that in
22 there. Area regulation is an acceptable approach to
23 management in Ontario - if that is what he means - and
24 if that is what Dean Baskerville said, I take it that
25 you would agree with that then as well?

1 A. No, I'm not agreeing with that,
2 because...

3 Q. Because of your concern about volume?

4 MS. SWENARCHUK: Mr. Freidin, I caution
5 you, if I might, in the same respect as Mr. Cassidy, to
6 give Mr. Benson time to think through the answers.
7 Sometimes he needs time to express his full thoughts.

8 MR. FREIDIN: Right, I understand. I'm a
9 little anxious.

10 Q. Go ahead, you can answer.

11 A. It's okay, I'll just fall back. I'll
12 still answer the original question anyway, so...

13 Q. And your answer to the original
14 question...?

15 A. I forget what the original question
16 was. Every time you people start talking I forget the
17 question.

18 Q. I asked you whether you agreed with
19 the quote, and you said that it was difficult to argue
20 with it.

21 A. No, I said I would take the approach
22 it's difficult to argue with it, meaning I would be on
23 the other side of Baskerville's argument.

24 I would take it -- where he says here I
25 think it's complicated. I'm against what he's saying,

1 I would say that...

2 Q. All right. You disagree with Dean
3 Baskerville, you do not believe that area regulation --
4 the area approach is an acceptable approach to
5 management. I don't care whether you disagree or agree
6 with him so much as knowing whether you agree or you
7 don't.

8 A. In Ontario now, no, I don't think it
9 is an acceptable approach.

10 Q. Why not?

11 A. Basically I think we're approaching
12 the stage and are past the stage in some areas where,
13 if we want to put the forest on a sustainable yield
14 basis, you have to work with the volume calculation in
15 order to determine what that level is and work towards
16 that level.

17 Q. Could you turn to Volume 165. So is
18 that the reason that you're advocating the adoption of
19 volume regulation, to move away from area regulation?

20 A. That's one of the reasons. I
21 outlined a number of other reasons in Chapter 2, some
22 of what I considered the deficiencies of OWOSFOP.

23 Q. Right, where you list a whole number
24 of reasons why it fluctuates. We'll deal with every
25 one of them.

1 A. That's right. But one of the major
2 reasons is, is in order to figure out what the
3 sustainable yield, I feel you have to use the volume or
4 a volume method to determine that. One sixty...?

5 Q. 165. Before I go there, I understand
6 that you were asked by your counsel whether it would be
7 difficult to implement the replacement of OWOSFOP with
8 maximum sustainable harvest; correct?

9 A. Correct.

10 Q. And you said no. Could I insert the
11 words volume regulation in there, where you would say
12 that it would be your evidence that it would not be
13 difficult to implement the replacement of OWOSFOP with
14 volume regulation; would it mean the same thing?

15 A. Are you quoting from -- I didn't
16 follow everything that you said there.

17 Q. You were asked -- I don't have the
18 exact quote, it was in the transcript, you said -- you
19 were asked: Would it be difficult to implement the
20 replacement of OWOSFOP with maximum sustainable
21 harvest. Ms. Swenarchuk asked you that.

22 A. Okay.

23 Q. You said, no, it wouldn't be
24 difficult.

25 A. Okay.

1 Q. Now, let me put this question to you:
2 Would it be difficult to implement the replacement of
3 OWOSFOP with volume regulation?

4 A. Well, the maximum sustainable level
5 is a type of volume regulation.

6 Q. So you don't believe it would be
7 difficult?

8 A. Right.

9 Q. Would you refer, please, to Volume
10 165 at page 29268. Do you have that page there?

11 A. I do.

12 Q. Go down to the bottom, starting in
13 the second last line, line 24, there was a discussion
14 leading up to here about this issue about volume/area
15 regulation. Dean Baskerville says:

16 "So that technically it is going to be
17 much simpler to, in my view, overlay a
18 volume overcast on the current area in
19 which it is relatively comfortable with
20 all of the constraint approaches than it
21 will be to adopt any kind of volume
22 regulation approach which would be a
23 veritable nightmare given the number
24 and current existing extent of the
25 constraints."

1 I read Dean Baskerville to say that
2 having regard that at this time it would be a veritable
3 nightmare and he would in fact disagree with your
4 evidence that it would be an easy matter to change from
5 area to volume regulation. Do you agree with my
6 interpretation?

7 A. I'm not clear as to what he means by
8 the current existing extent of the constraints.

9 Q. Okay.

10 A. Perhaps it's mentioned earlier.

11 Q. Well, I'm not going to attempt to
12 interpret what Dean Baskerville said. I think we'll
13 just leave that as a matter of argument.

14 If you can't agree or if you disagree
15 because you don't know what that means, that's fine, we
16 will just move on.

17 Now, I want to explore this concern that
18 you have regarding the area/volume relationship and
19 that's a matter that Dean Baskerville also addresses;
20 is that not correct?

21 A. He is referring to constraints in a
22 conventional sense, it's on the other previous page
23 there where he's talking about lake reserves and so on.
24 He's talking about a doughnut around a lake where it's
25 relatively simple to do that with the MAD base.

1 Q. So he's saying -- I'm sorry, go
2 ahead.

3 A. He's using a lake as an example of
4 one of the constraints. So in the page where he's
5 talking about current existing extent of the
6 constraints, I don't think it would be a veritable
7 nightmare if you first try to reduce your land base to
8 the land base you're actually going to be working with;
9 in other words, separate out the land uses, if you're
10 going to have reserves, try to separate those out
11 first, take them out of the land base that you're
12 working with so you know the exact land base that
13 you're putting into production, and I think that would
14 reduce some of the nightmares as far as the reserve
15 part.

16 Q. Okay, thank you. I want to explore
17 with you the issue of area/volume relationship which is
18 in Volume 165. Would you turn to page 29243.

19 A. Sorry, which page?

20 Q. 29243. And during the discussion
21 about area versus volume approach, Dean Baskerville
22 says at line 14:

23 "The approach to management design as
24 it's laid out in the manual...", we're
25 talking about area regulation:

1 "...is entirely consistent with forest
2 management principles as they are
3 accepted today. It is an area regulation
4 rather than volume regulation but there
5 are ways to bridge."

6 And I interpret -- first of all, do you
7 agree with that? I took that by the way, when he says
8 there are ways to bridge, to mean there are ways to
9 bridge any concern you have about what volume that
10 you're going to get off of the area designated by area
11 regulation method.

12 A. I don't know what that means -- he's
13 considering when he says, there are ways to bridge, to
14 really agree with that. So I can't agree with that
15 unless I knew what ways to bridge he's talking about.

16 Q. All right. Let's assume that when he
17 says there are ways to bridge means ways to in fact
18 determine the volume which comes off the area that you
19 get out of an area regulation method.

20 Assuming that's what he means, would you
21 agree with the statement?

22 A. No.

23 Q. Do you agree or disagree that there
24 are ways to in fact determine the volume that is going
25 to come off of the areas which get designated through

1 area regulation?

2 A. There are ways to determine the
3 volume, yes.

4 Q. Do you agree or disagree that the
5 Industry in fact does that as a matter of course in
6 their management?

7 A. As far as I know most industries
8 would do that, yes.

9 Q. Do you agree or disagree that one
10 should be able to in fact do exactly the same thing on
11 Crown management units using the data that is available
12 from Crown management units?

13 A. To determine the volume from the area
14 allocation -- of the area allocation, yes.

15 Q. This is the -- you're talking about
16 area allowable cut allocations?

17 Q. Yes.

18 A. Yes.

19 Q. All right. So we can agree at least
20 then that when an area in fact is designated through
21 area regulation, it is possible and in fact is the
22 practice for a volume to be determined as to -- or the
23 volume that's going to come off that area is
24 determined; that's possible and in fact practised?

25 A. Volume is determined, yes, either

1 from the FRI or operational cruising, by some
2 procedure.

3 Q. And you agree that there is a
4 requirement, or do you know whether there is a
5 requirement to in fact record what that volume will be
6 in the timber management plan?

7 A. I don't know the table numbers off by
8 heart, but certainly under the new OWOSFOP calculations
9 some of them do record the volumes that are going to be
10 harvested over a rotation period.

11 I don't know if that's a requirement, but
12 they are recorded along with area now, and you have
13 usually a couple of other sets of tables, one that
14 really gives the initial allocation and -- I don't have
15 a management plan here, that would help if I...

16 Q. Do you have a timber management
17 planning manual?

18 A. Not here, no. I had one.

19 MS. SWENARCHUK: (handed)

20 MR. FREIDIN: Q. Do you have that? Turn
21 to page 83 -- I'm sorry, page...

22 A. 87.

23 Q. 87. Do you agree that there is a
24 requirement in the present timber management planning
25 process that a forecast be made of the volume estimates

1 by species that are going to come off of the areas?

2 A. That's right, there is.

3 Q. And Table 4.18.1 on page 89 also
4 deals with the subject matter of volume by species?

5 A. 18.2 is by licensee or agreement
6 holder.

7 Q. And if we go back to page 88, in
8 relation to the instructions for Table 4.17 Instruction
9 No. 3 indicates that:

10 "The source of the volume data and the
11 method used will be explained in the
12 text of the timber management plan."

13 Do you agree that's a good idea?

14 A. To explain the method of determining
15 the volume is a good idea, yes.

16 Q. And when these tables talk about net
17 merchantable volume, what relationship if anything does
18 that have to anticipated scaled volumes?

19 A. It should be very close to the
20 anticipated scaled volume, hopefully if your factors
21 that you've used to reduce the gross total volume to
22 net merchantable volume have been correctly chosen or
23 determined from past work.

24 Q. So if you can refer to page 21 of the
25 witness statement, your witness statement -- actually

1 at the bottom of page 20 you were asked about this by
2 your own counsel and I believe by Mr. Cassidy.

3 It says:

4 "Neither the FRI or the operational
5 cruising can be related to the actual
6 scaled volumes."

7 Then you say:

8 "Without an accurate assessment of the
9 scaled volumes that may be expected from
10 the operational areas of a management
11 unit, no reliable estimates of wood
12 supply may be made at the operational
13 level of management planning."

14 Can we agree at least, Mr. Benson, that
15 the timber management planning manual requires you to
16 make an assessment of what you've indicated is the
17 equivalent of scaled volumes?

18 A. Yes.

19 Q. And in fact it's done?

20 A. It requires you to make that
21 assessment, I think where we would argue is: How
22 accurate is that assessment.

23 And the sentence regarding the FRI and
24 operational cruising was related to the study that was
25 carried out by Rosehart in '87, where he was taking a

1 look at the forest resource inventory system and made
2 recommendations for its improvement, and in that he
3 made the point that he couldn't establish that
4 relationship between the FRI or the operational
5 cruising and between them and the actual scaled volume.

6 Q. Do you have any information, sir, as
7 to the inaccuracy in any timber management plan between
8 the estimate of net merchantable volume by species and
9 scaled volume, any difference of any significance?

10 A. Do I have knowledge of any of that
11 difference?

12 Q. Yes, sir.

13 A. For the existing plans, no, I
14 wouldn't have that.

15 Q. May I ask another question then?

16 A. Sure.

17 Q. Thank you. I want to examine some of
18 the evidence in your witness statement regarding how
19 the OWOSFOP actually works to make sure that I
20 understand your view of that system.

21 Can you turn to page 11 of the witness
22 statement, please. You indicate right at the beginning
23 of page 11, Mr. Benson:

24 "The OWOSFOP method of determining
25 allowable cut is a weighted area method."

1 And would you agree with me that it would
2 be more accurate to describe it as a method of
3 calculating the maximum allowable depletion as opposed
4 to a method of determining the allowable cut?

5 A. Your question is, am I questioning
6 the use of the term weighted area method, or rather
7 that it's used for determining the maximum allowable
8 depletion--

9 Q. Right.

10 A. --rather than the allowable cut?

11 Q. As opposed to the allowable cut.

12 A. Yes, it determines, the way that it's
13 worked out within the management plan, a maximum
14 allowable depletion, yes.

15 Q. And is there a difference between the
16 allowable cut and the maximum allowable depletion?

17 A. Well, according, if I recall, to the
18 definition in the manual there's no difference, or I
19 believe allowable cut is called MAD.

20 Q. Do you know there are certain
21 provinces which talk about the determination or
22 calculation of allowable cuts, they don't talk about
23 calculation of maximum allowable depletions; is that
24 correct?

25 A. That's correct.

1 Q. And are you suggesting to me, Mr.
2 Benson, that it's your understanding that those
3 calculations, the determination of an allowable cut and
4 the determination of a maximum allowable depletion are
5 exactly the same thing?

6 A. No. I'm going by page 168 of the
7 forest management planning manual where it says:

8 "Allowable cut (see maximum allowable
9 depletion)."

10 Q. What page, sir?

11 A. 168. So it says "(see maximum...",
12 in a way it's equating the two.

13 Q. All right. Is there a difference
14 between the approach of calculating a maximum allowable
15 depletion as a means of yield regulation and the
16 approach of calculating an allowable cut as a means of
17 yield regulation?

18 A. Well, not if we use the definition
19 the way the Ministry has used it, but I think what your
20 point is, is that you're calculating a maximum
21 allowable depletion from which you're then subtracting
22 a land base for one purpose or another, whether it's
23 for reserves or for -- well, let's say you're
24 subtracting reserves from it, and from that then you're
25 determining what you would call the total depletion

1 area. That is my understanding of it.

2 Q. Okay, thank you.

3 A. But I don't -- it's not called
4 allowable cut here, as far as I know the Ministry calls
5 allowable cut MAD.

6 MR. MARTEL: If you're having that much
7 difficulty, Mr. Benson, with this, how does anyone in
8 the general public even have a clue as to what is
9 meant - outside of professional foresters - who in
10 God's name would understand what's being talked about?

11 THE WITNESS: Well, some of our students
12 do.

13 MR. MARTEL: Yes, but I'm talking about
14 the general public. Yes, some of your students, I'm
15 talking about the public, the people who are supposed
16 to be involved in some of this planning that we're
17 going to have in the future and, my God, here's someone
18 who teaches at the university, who's a practising
19 forester -- who has been a practising forester, how do
20 we expect the public to be involved in this process and
21 understand what's going on and not walk away and say:
22 To hell with all of yous because it doesn't make sense?

23 I'm really -- you know, we're asking for
24 a decision to involve the public when we can't even get
25 agreement or understanding by people that are

1 professional in the field.

2 Now, there's got to be something
3 simplified so that the public can understand; would you
4 not agree?

5 THE WITNESS: I agree.

6 MR. MARTEL: I mean, it just is mad.

7 MADAM CHAIR: Mr. Benson, do you believe
8 the timber management planning manual is an appropriate
9 document for the public to rely on with respect to
10 learning about timber management, or would you say that
11 that is a document that the professional forester is
12 meant to use?

13 THE WITNESS: It's an awkward document, I
14 find, for teaching students with and certainly I find
15 it an awkward document when I try to take a look at a
16 management plan and understand it, so I'm sure the
17 general public finds it very difficult to handle.

18 MR. FREIDIN: Q. Would you agree, Mr.
19 Benson, that there are certain technical matters or
20 issues that professional foresters must deal with which
21 one cannot expect reasonably to, in fact, be able to
22 explain to the public?

23 You can't explain every aspect of a
24 scientific endeavor to the public; do you agree or
25 disagree with that proposition?

1 A. I think you would have to make clear
2 the impact of what it is you're doing. The mathematics
3 of it, perhaps not, but it should be available for them
4 if they want to understand it, but I think they have to
5 have the opportunity to understand what the impact of
6 what it is you're doing.

7 MR. MARTEL: I'm having difficult with
8 this again. Based on what Mr. Freidin has just asked
9 you, there are things that you can't quite explain, I
10 think that is what he said - I don't want to misquote
11 him - but surely it's anticipated, when one is
12 teaching, that everything's within the capacity of a
13 teacher to put across to the public, or I had no
14 business being in the teaching field for years.

15 I mean, it's an unbelievable statement
16 that there are things that we might not be able to get
17 across to them, because how would you pass that
18 knowledge on, the ability to calculate and to do these
19 things, if you couldn't explain it thoroughly to the
20 people you were attempting to teach?

21 THE WITNESS: I think he's asking the
22 question from the point of view of the public, but I
23 have to admit I have that trouble getting the point
24 across to the students too sometimes.

25 I agree in principle with what you say

1 and I see what he's talking about, the technicalities,
2 sometimes there might be so many that it's difficult to
3 explain them time wise to all the public, but ideally
4 it would be best -- if you really know your subject,
5 you should be able to explain it to anyone.

6 MADAM CHAIR: Mr. Benson - excuse me -
7 Mr. Benson, would you agree that there are better ways
8 of informing the public about timber management than
9 using the timber management planning manual, and the
10 evidence before us is that you have suggested various
11 summaries or you have expressed hope that there will be
12 documents that will explain simply to the public what
13 it is about, what timber management planning is about.

14 THE WITNESS: Yes, and I think there
15 should be something more...

16 MR. FREIDIN: There are terms and
17 conditions recommended by some parties that in fact
18 address that issue.

19 Q. Just following up on the point that
20 was raised by Mr. Martel, you know, I'm assuming that
21 it's your view that you understand the approach, the
22 MAD calculation, the OWOSFOP approach, and I guess the
23 point I'm trying to make is, if you understand it and
24 you have difficulty explaining that technical matter to
25 your students that is because they have to understand

1 that to be foresters, then we have to really ask: How
2 reasonable is it to impose on you or anyone else an
3 obligation to explain that specific technical issue so
4 that a lay person can understand it. That's all --
5 that's the point I'm trying to make.

6 A. Maybe I'm jumping ahead to a question
7 I'll be asked, but I think the whole -- the methodology
8 could be simpler so it could be more readily understood
9 by all concerned.

10 MR. MARTEL: But that is where I started
11 from, because my concern isn't just the public that my
12 colleague's expressed, but my concern is -- and I think
13 I started out by saying, if you as a university
14 professor have difficulty with it, understanding
15 whether it's MAD, allowable cut and the various things
16 that you've gone through this afternoon, surely there's
17 got to be, or hopefully there's a way that makes it
18 much more understandable, particularly for those who
19 are trying to invoke this knowledge or pass this
20 knowledge on to other people so that they can use it.

21 If you have difficulty, then what does
22 everybody else do though, and I'm not just talking
23 about the general public, I'm talking about students,
24 I'm talking about people who are trying to understand
25 what's going on, and that's my dilemma.

1 THE WITNESS: I think there's another
2 understanding of it too, it might not be that the
3 people are interested in the technical calculation, but
4 perhaps they're interested in the result of the
5 calculation and what the implications of that are, and
6 I think that's another part that needs to be--

7 MR. MARTEL: Simplified.

8 THE WITNESS: --put forward, this is what
9 we're planning to do.

10 MR. FREIDIN: Q. Okay. I want to deal
11 with the issue of fluctuating volumes, which you
12 indicated was a concern of yours. And just so I
13 understand the way your witness statement is set up,
14 just go to page 23, please.

15 Maybe you all want to turn to the witness
16 statement, I don't know whether you want to take the
17 time to do that now.

18 Page 23 we have Figure 2.2 or 2-2, okay.

19 A. Yes.

20 Q. And we can agree that whether we use
21 the -- you call it sustained, that's the LTSY model, as
22 I refer -- L-T-S-Y?

23 A. Yes.

24 Q. Can I refer to that as LTSY, it makes
25 it easy for me.

1 A. LTSY. Okay.

2 Q. All right. What do you want to call
3 it, so we all use the same word.

4 A. No, no, that's fine.

5 Q. All right. Long-term sustained
6 yield, another acronym. Would you agree that whether
7 you use the LTSY model or whether you use the OWOSFOP
8 model, according to your diagram here, you end up at
9 the same place about 105 years or so down the road?

10 A. Yes, that is roughly the same place.

11 Q. Okay. And with the present OWOSFOP
12 method you have for the first, oh, 45 years you're
13 actually allowed to cut more than you would be allowed
14 to cut using the LTSY method?

15 A. That's correct.

16 Q. And I had some confusion. Are you
17 saying in your evidence that if you adopt the LTSY
18 model that you would not be allowed to harvest that
19 area above the horizontal line but that you would have
20 to somehow drop down to the horizontal line now?

21 A. Depends upon the particular forest,
22 but in your basic model stay in that line, so that what
23 you're doing is saying, for a particular forest this is
24 the harvest level that we can sustain.

25 Now, it is conceivable, for example, out

1 west in some of the old growth forests out there where
2 they have high volumes per hectare, you have a rather
3 high yield at the start and if you're going to be
4 growing younger forests, well, your yield in the long
5 term is going to drop down. So they may start out a
6 bit higher there and then drop down to what the new
7 forest level would be for their long-term sustained
8 yield level.

9 For our forests I think one of the
10 problems has been is to stretch out any of the
11 overmature wood that we have until some of the younger
12 age-classes have reached maturity, and I've tried to
13 show that in some of the examples, I guess in this
14 chapter and in Volume II, for some of the management
15 units where I used cutting into a certain age-class as
16 a problem in the future.

17 So you should try to stretch out the
18 harvest of the older age-classes now to cover up that
19 time period until the forest has enough area in all
20 age-classes; in other words, try to sustain the
21 production from the forest from now as far as we can
22 see in the future.

23 Q. So can I take it then from your
24 answer that there is no objection to harvesting some at
25 least of this area in the triangle?

1 A. Depending upon the structure of the
2 forest.

3 Q. Again, structure of the forest you're
4 talking about a management unit now?

5 A. Within a management unit, right.

6 Q. Yes.

7 A. Now, in most cases in Ontario I would
8 say no, and...

9 Q. No, you could not harvest that on
10 most management units?

11 A. If you're working out the -- LTSY,
12 you called that?

13 Q. Yes.

14 A. If you're working it out by working
15 group, in many cases, no, you wouldn't want to enter
16 into that particular area.

17 Q. But in some circumstances you could?

18 A. In some circumstances it would be
19 possible to do that, yes.

20 MR. MARTEL: Might I ask where you would
21 get - maybe it's the wrong question - but where would
22 you get the wood that's required then now if you're not
23 going to cut?

24 THE WITNESS: If you don't cut in that
25 triangle above the line?

1 MR. MARTEL: Yes.

2 THE WITNESS: Well, what you're doing is
3 you're taking that wood in that triangle and saying
4 we're saving that until later on in order to -- you can
5 see by the way that straight line goes across there
6 with the white squares.

7 MR. MARTEL: Mm-hmm.

8 THE WITNESS: Well -- and then there's a
9 spot where the dark squares drop down below the
10 straight line.

11 MR. MARTEL: Mm-hmm.

12 THE WITNESS: Well, in order to make our
13 white squares go straight across there, we've had to
14 save some of that timber from the early years to bridge
15 us across that drop that might occur in the future.

16 MR. MARTEL: Yes, I understand that.
17 It's the next step, where do you get -- let's say that
18 some of that which is required today is in that
19 triangle, are you saying we have to cut back to get
20 back down to the roughly hundred thousand area, Mr.
21 Benson? That's what I just can't take -- I can't make
22 that leap.

23 MR. FREIDIN: That's what I thought he
24 was suggesting and that's the question that you've
25 asked.

1 THE WITNESS: So if we're using, say, the
2 18 -- or 180 thousand now, can we drop it down to a
3 hundred thousand?

4 Well, if we're using 180,000 now, if we
5 follow the OWOSFOP, we would drop down to 160,000, then
6 down to 140,000 and eventually down to 80,000 and then
7 back up again.

8 What I'm maintaining, that if we're
9 managing a forest, if you're trying to sustain that
10 forest, if you can set up what's the sustainable level
11 that we can put on it.

12 If you're in the situation where you're
13 using that higher level now, then you've got a problem,
14 you can't sustain that level.

15 MR. MARTEL: Well, would you have to know
16 then what's out there to determine -- would we need a
17 more accurate figure as to what's available now to
18 determine whether we can reach this leveling out
19 sooner; is that a possibility?

20 THE WITNESS: To have a better inventory
21 of the existing forest and its--

22 MR. MARTEL: Yes.

23 THE WITNESS: --growth potential.

24 MR. MARTEL: Yes, to determine whether
25 that is --

1 THE WITNESS: That's really: What can
2 the forest produce in terms of wood.

3 MR. MARTEL: Yes.

4 THE WITNESS: That's the first essential
5 criteria, and then what I'm saying is: What can that
6 forest produce on a sustainable basis.

7 MR. FREIDIN: Q. If I can just
8 interject. My concern is, let's assume that you've got
9 a management unit where you've got this age-class
10 structure, the MAD calculation says you can actually
11 harvest 180,000.

12 Let's say in year 10 where it's come down
13 a bit to, say, 160, let's say you don't need all the
14 160 but you need 145 to meet the mill demand, I've
15 interpreted your evidence as saying that somehow you
16 shouldn't be allowed to harvest the 145, you should
17 somehow reduce the harvest below the 145 even though
18 the mill needs it, even though it's mature, that you
19 should do that in the interest of the long term because
20 you feel that it will somehow get you to the flat line
21 situation either more quickly than would otherwise be
22 the case. Is that a misinterpretation of your
23 evidence?

24 A. I don't think so, no. I think it's a
25 matter of, you're arguing for using a credit card and

1 I'm saying: No, I'll pay cash. That type of analogy,
2 where you're willing to borrow on the future with the
3 hope you'll have the money to pay off your bills, where
4 I'm saying: No, we're going to pay off our bills with
5 money we have in our pocket.

6 Q. All right. So is it part of your
7 thesis that in order to get to the even flow volume
8 situation, that on some management units in the
9 province that you should reduce the amount of harvest
10 below the harvest level which is required to meet the
11 mill demand, even though that harvest falls within the
12 maximum allowable depletion?

13 A. Yes, and I think Temagami would be
14 the case in point.

15 Q. And would you -- I'm sorry. All
16 right.

17 A. I can't think of any others right at
18 the present time that would meet that situation. In
19 most cases the MAD for many management units is not
20 being harvested, so you don't really have that problem.

21 Q. I'm talking about the concept, the
22 thinking or the philosophy behind the process you're
23 suggesting, Mr. Benson.

24 Would you agree with me that assuming
25 that you would be unable to obtain the supply required

1 by that mill in the situation which I've described
2 where in fact you didn't allow them to take what they
3 needed, and you couldn't get that supply from somewhere
4 else, that that could have an economic effect, a social
5 effect on the mill and on the community which relied on
6 it?

7 A. If you reduced it immediately it
8 would have an effect on that mill and that's -- again,
9 you run into that problem.

10 If I took the scenario with the black
11 squares in my diagram, Figure 2.2, if you're trying to
12 run a mill at that higher level 180,000, eventually if
13 you were harvesting that 180,000 and you expected to
14 harvest that amount in the future, it would not be
15 there.

16 It's set up at a harvest level that's too
17 high, so you would run into the same problem where you
18 couldn't maintain your mill at the same high level.

19 MADAM CHAIR: What happens if you phase
20 it in within 50 years, let's say, your sustainable
21 yield line and what is now the OWOSFOP line intersect,
22 what happens to the sustainable yield level if the
23 phase-in is longer than year five; does that mean the
24 sustainable level, the whole line will be lower, that
25 it will drop overall, or that it will just extend

1 farther out in the future without any change, is the
2 level constant for longer?

3 THE WITNESS: It wouldn't be a constant
4 answer. It would depend upon the structure of the
5 forest, where you would set the sustainable level.

6 In this case, if we're looking at the
7 long-term sustainable yield or the maximum level, it
8 wouldn't change, but if you're looking at what I called
9 before the maximum sustainable level, the level you
10 could sustain and not cut below certain age-classes--

11 MADAM CHAIR: Mm-hmm.

12 THE WITNESS: --well then, it might drop
13 down to a different level.

14 MR. MARTEL: Shouldn't we then know what
15 the forest can produce and what we intend to try to
16 produce so that we can decide how to manage what's
17 there until we make those fundamental decisions, that
18 this is what the forest can produce, this is how much
19 Industry needs, and this is what we're going to set out
20 to extract and tie everything else into the planning;
21 until we do that, where are we going?

22 THE WITNESS: I agree with what you say
23 and I can't argue against that.

24 MR. FREIDIN: Q. All right. Mr. Benson,
25 would you agree that the way the OWOSFOP calculation is

1 done it in fact predicts what in fact the volume will
2 be and Industry can see that through use of the model
3 and can adapt if necessary?

4 A. Well, that reminds me of the Temagami
5 plan again and the situation with the white pine there,
6 where it was a liquidation cut of the older growth;
7 once that is finished, well then, the mills can adjust
8 to that.

9 I think it's harder to take -- it's
10 harder to take the wood away from a mill than what it
11 is to give wood to a mill. So if you set up a mill to
12 use the higher volume of wood, you can't readily take
13 that away.

14 Q. But if you've got a mill that is
15 there now--

16 A. Right.

17 Q. --and using a higher volume of wood
18 than your flat line here--

19 A. Right.

20 Q. --and it needs that wood to keep
21 going, to keep employing the people and you say: I'm
22 sorry, we won't give you all that wood because we want
23 to get down to the flat line, this even flow, you're
24 just going to have to make do with less, that has
25 ramifications that I suggest to you are unacceptable in

1 terms of the social, if not the economic, environment?

2 A. Well, in the long term though if
3 you're going to harvest above that, the white square
4 line, the SUST line--

5 Q. LTSY.

6 A. --LTSY line. If you're going to be
7 harvesting above that line, your mill -- and that's the
8 only source of wood that you have, you're going to run
9 out of wood anyway.

10 Q. You're assuming, I take it -- when you
11 say, don't give the mill what it needs even though it's
12 within the MAD but reduce it, you're assuming, I take
13 it, that the mill can in fact continue to operate at
14 the lower level, that you're not going to -- well, is
15 that your assumption?

16 A. Well, I can see -- you know, I'm not
17 trying to say we should be putting mills out of
18 business, that's not the essence of what I'm saying,
19 but I'm saying to manage the forest, the forest has a
20 potential that it can produce, that should be the
21 driving force of what we're trying to do, not what
22 existing mills want; what can we produce with the
23 present forest, and then I would say then: Is that
24 enough to keep the existing mills going, how are you
25 going to divide it up.

1 Q. Now, Mr. Benson, you indicated in
2 your earlier answer that it would be nice to be able to
3 save some of this area in the triangle. Would you
4 agree with me that if in fact the area in the triangle
5 is composed of a mature or overmature forest that it
6 may be impossible to in fact hold on to that old wood
7 for the period that this triangle goes up to, your 45
8 years?

9 A. That's another possibility in some
10 cases, in some species, yes, that's a possibility too
11 you would have to consider.

12 Q. And in those cases where in fact the
13 area was composed of such a forest, then to try to
14 retain it on the stump would lead to it breaking up and
15 turning into what Mr. Marek called what would be a junk
16 forest, I take it that you would advocate the
17 harvesting of that area, notwithstanding that it was
18 above the flat line?

19 A. If you're looking at it as a purely
20 production forest, yes. If you would consider that
21 timber production forest, you would look at it that
22 way, right.

23 Q. Thank you.

24 A. So I think -- there's really that
25 combined with the other reason too, if you did have --

1 if you were starting out with a total forest that was
2 all overmature, say, and you could store it on the
3 stump, well then, you could start out with a higher
4 level cut too and work down to your sustainable level.

5 Q. This particular diagram indicates
6 that the OWOSFOP model predicted that if you harvested
7 at the maximum allowable depletion that you would have
8 a volume - is it volume by the way, yes - volume which
9 would fall below your flat line about 70 years or, say,
10 65 years in the future?

11 A. Correct.

12 Q. And would you agree that it's the
13 purpose of the wood supply modeling, including the
14 OWOSFOP model, to make those sorts of predictions so
15 you can determine what action, if any, you can take to
16 avoid a dip in supply?

17 A. Yes, except I'm not sure that OWOSFOP
18 helps you to -- OWOSFOP causes a dip in supply, that's
19 my point.

20 Q. OWOSFOP causes the dip?

21 A. Right, because it's allocating based
22 on a calculation - in this particular diagram it's the
23 filled-in squares - it's that calculation that is
24 starting at 180,000 and dipping down to 80,000.

25 Q. Would you agree or disagree with the

1 proposition, Mr. Benson, that you could have an
2 age-class structure in a management unit where you
3 could have a dip in supply, if you're talking about
4 trees of a certain age, regardless of whether you
5 harvest it or not?

6 Let me just tell you what I'm thinking
7 about. You want to harvest trees at age 100 or 110
8 plus and as a result of natural disasters in the past
9 you've got an age-class structure which has got almost
10 nothing in the 61-80 year age-class. If you don't
11 harvest that management unit at all somewhere in the
12 future you're going to have a hole in terms of the
13 age-class that you want to harvest, if the forest --
14 everything else being equal, the forest moves along
15 through succession; won't you?

16 A. Well, basically you're using the
17 scenario where you're saying we can't retain that
18 volume of wood on the stump until it -- using that
19 scenario again?

20 Q. Yes, yes.

21 A. Yes, I agreed to that before, I agree
22 to that again.

23 Q. So in that case it's not the model
24 that's causing the problem, it's the age-class
25 structure that you inherited that's causing the

1 problem?

2 A. Yes. I think what you would want to
3 do though, rather than use OWOSFOP straightforward like
4 that, you would want to try to figure out: Well, how
5 long can you really stretch that older wood out over
6 it.

7 Q. Exactly. And would you agree, sir,
8 that the decision as to whether that is required and
9 whether in fact you can do that, is a decision which
10 would have to be made on a management unit by
11 management unit basis based on the prediction of the
12 future, based in the area in question, based on the
13 demand of the mills being supplied; would you agree
14 with that?

15 A. I think you would also have to base
16 it upon - based on your scenario there, if you were
17 expecting a drop in the future - just where that future
18 drop was coming from.

19 Q. Yes, but...

20 A. Or whether it was going to be plugged
21 up or not.

22 Q. Adding that into the equation, do you
23 agree that the decision as to what to be done would
24 have to be on a management unit by management unit
25 basis?

1 A. The determination of any allowable
2 cut, as I understand it, is on a management unit basis.
3 So, yes, I would agree with that.

4 MADAM CHAIR: Mr. Benson, can you remind
5 the Board in your witness statements whether you
6 address the evidence that was given to us by John
7 Osborn with respect to his estimates, and there were
8 different reasons that -- there were different factors
9 that went into his estimates, but essentially we have
10 in evidence before the Board one prediction, that the
11 old forest could be extended 145 years.

12 THE WITNESS: I didn't have any data from
13 that model to use, to test it out, or to see just
14 exactly what he had done.

15 MR. FREIDIN: Is that evidence from Dr.
16 Osborn that you're referring to, Madam Chair?

17 MADAM CHAIR: I think so, Mr. Freidin.

18 MR. FREIDIN: To the extent that the old
19 forest could be extended for 145 years?

20 MADAM CHAIR: That was one prediction.

21 MR. CASSIDY: As I recall there were
22 couple of scenarios, I think that's what was meant, not
23 all coming from --

24 MADAM CHAIR: Oh. Well, there were other
25 estimates.

1 MR. FREIDIN: You're thinking of the
2 Panel 4 scenarios?

3 MADAM CHAIR: Yes. There were other
4 estimates as well.

5 MR. FREIDIN: Yeah.

6 MADAM CHAIR: Where he posed the major
7 questions that had to be addressed and came up with a
8 series of scenarios.

9 MR. FREIDIN: Oh, all right. I'll have
10 to go back, I don't remember the numbers.

11 THE WITNESS: No, I haven't been able to
12 look at those because we didn't really have the basic
13 data to work with.

14 MR. FREIDIN: All right.

15 MADAM CHAIR: Do you have -- excuse me.
16 Do you have -- if you didn't have any data to work with
17 and you don't have data, then you don't have any
18 opinion about how long the old forest can be harvested
19 in Ontario with respect to stretching it out over a
20 supply gap that will occur because the second growth
21 forest is not ready for rotation age?

22 THE WITNESS: Well, Mr. Freidin is right
23 there, you would really have to work that out on a
24 management unit basis.

25 MADAM CHAIR: Mm-hmm.

1 THE WITNESS: And how long would it last,
2 would vary from management unit to management unit and
3 for each working group, so I don't really know for all
4 of Ontario. For some of the individual management
5 units I put down a scenario what I felt the--

6 MADAM CHAIR: Mm-hmm.

7 THE WITNESS: --the sustainable yield
8 would be.

9 MADAM CHAIR: And your sustainable yield
10 estimates, theoretically there would be one for every
11 operating management unit in Ontario?

12 THE WITNESS: And for every working
13 group, however, we're doing the inventory.

14 MADAM CHAIR: Mm-hmm.

15 MR. MARTEL: What's the aggregate,
16 though, what are we looking at roughly, because isn't
17 that what triggered the Armson report, I guess it was,
18 at one time, we weren't going to have enough wood, and
19 where are we now, and we have some idea what we have
20 out there that would keep us going until, as my
21 colleague says, the gap is filled.

22 Do we know how long, do we have an idea
23 how long the wood supply is for the various mills in
24 the province; and, again, it's going to have to be area
25 by area unless you're prepared to haul wood a thousand

1 mills for processing.

2 Just what are we looking at, and maybe
3 it's because this process started historically a long
4 time ago and I just can't remember any longer?

5 THE WITNESS: Do we have enough wood?

6 MR. MARTEL: For the foreseeable future.

7 THE WITNESS: And will we have enough
8 wood? Those estimates, they seem to come and go and
9 part of the problem is the database, the way the data
10 is kept, and I think one problem I had with what's been
11 going on here is what happens to these areas that are
12 being cut and come back to unplanned natural
13 regeneration, or it seemed for the one unit here this
14 morning, what happens to some of the planned natural
15 regeneration, just where is it fitting into the overall
16 regeneration picture.

17 I presented that one table somewhere in
18 here where I showed, for the province, the estimated
19 depletion and the renewal and it came out as a negative
20 figure, but, you know, that negative figure, we don't
21 have land out there where there's no trees on, it's a
22 question of what's happening to that land, and that's a
23 part that needs to be clarified.

24 MR. FREIDIN: Q. Well, Mr. Benson, we
25 will get into the MAD calculation in a moment, but

1 seeing you raised this question about, you know, what
2 is going to happen to the area that was unplanned, I
3 suggest to you that the OWOSFOP model and, in
4 particular, the method by which the maximum allowable
5 depletion is calculated takes into account what is
6 going to come back to those areas when in fact it
7 predicts regeneration success as part of the
8 calculation of the maximum allowable depletion.

9 So it's one of the parameters which is
10 put into the equation and calculated in the maximum
11 allowable depletion, regeneration success. First of
12 all, do you agree with that?

13 A. Not in respect -- with what I was
14 talking to Mr. Martel about, it's a different --

15 Q. All right. Maybe just answer my
16 question then. Do you agree, sir, that regeneration
17 success is a factor or a parameter which is taken into
18 account when calculating the maximum allowable
19 depletion?

20 A. It's a factor that is put into the
21 OWOSFOP model, yes.

22 Q. And do you agree that the
23 regeneration success percentage which is used is a
24 reflection of what the forester's view is as to what is
25 going to come back on the areas that are harvested?

1 A. Yes, it can be, but there is a
2 confusing point where you have an area that's going to
3 be harvested and regenerated in different ways, and I
4 think I was trying to make that point this morning too,
5 that if you're going to artificially regenerate it or
6 if you're going to rely on natural regeneration,
7 planned, unplanned or whatever, do they have the same
8 rotation, do they have the same regeneration success.

9 Q. Would you agree or disagree that if
10 you use as your rotation the rotation you believe that
11 you would use for the natural forest, all right, as
12 opposed to using a rotation you thought you could use
13 or have if you used intensive management, that you
14 would be conservative in terms of predicting what was
15 going to come back; in other words, you would on the
16 low side in terms of your prediction as to what would
17 come back?

18 A. You would be conservative that way,
19 but then you would have to have what happens to the
20 land that didn't come back, where did it go.

21 Q. If the land -- and it's important
22 that you account for the land that doesn't come back,
23 and if you account for it and you predict, or it goes
24 into another working group -- well, let's not get into
25 that. I will deal with that issue, okay, I don't want

1 to confuse you.

2 Would you turn to page 25. This is the
3 figure where you indicate that approximately 70 years
4 into the future you'll be cutting in the 61-80 year
5 age-class; correct?

6 A. Correct.

7 Q. And this is a graph which is produced
8 as a result -- pardon me, this graph represents a
9 simulation of what will happen if you use the OWOSFOP
10 method?

11 A. That's correct.

12 Q. Does this model -- pardon me, this
13 graph involve a calculation where you assume that the
14 full maximum allowable depletion was being harvested?

15 A. That would be the assumption in this
16 model, yes.

17 Q. I think you've indicated in your
18 evidence that on many management units the full maximum
19 allowable depletion is not being harvested?

20 A. That's correct, right.

21 Q. So if you weren't harvesting the full
22 maximum allowable depletion in this particular
23 management unit with the age-class distribution, you
24 might not end up cutting in the 61-80 year age-class as
25 depicted?

1 A. That's right, and -- well, there's no
2 reason then for using a weighted area allowable cut.
3 You run into the same -- you run into a bigger problem,
4 in a sense, if -- what are you going to be cutting from
5 that unit in the future?

6 I still think it's more important to set
7 out what your long-term sustainable level so you know
8 what you can produce from that unit, and if you're
9 cutting below or above that long-term sustainable level
10 it tells you you've either overallocated on that area
11 or you can allocate some more wood on that area for
12 Industry.

13 Q. I guess, Mr. Benson --

14 A. Just looking at the timber production
15 part.

16 Q. Right. You like a prediction of the
17 future that says you're going to have an even flow, and
18 you have problems with a prediction which says we know
19 what the supply will be but it's going to fluctuate?

20 You just don't like -- would you agree
21 that whether you have - let me go back - whether you
22 have your LTSY or whether you have OWOSFOP, you're
23 going to have a model which is going to predict the
24 future as best you can?

25 A. I think we could agree on that, we

1 want to try to manage the forest as best as possible,
2 and certainly I'm not saying we want to manage it to
3 put Industry out of business, unless you've got a
4 problem forest where you're cutting above the long-term
5 sustainable yield level at the present time.

6 Q. Will you agree or disagree with the
7 proposition that where a maximum allowable depletion
8 calculation projects that you would be cutting in the
9 61-80 year age-class assuming you harvested the full
10 MAD, the fact that the model says that does not mean
11 that your timber management plan would get approved in
12 a way which would allow you to harvest in those younger
13 age-classes?

14 If you don't understand the question,
15 I'll try to put it a different way.

16 A. Well then, why do the calculation if
17 it's not going to get approved.

18 Q. You do a simulation of the future
19 using a wood supply model. I'm just saying to you that
20 if your simulation says, if you harvest the full
21 maximum allowable depletion and you're allowed to do
22 that from now until forever, 70 years in the future
23 you're going to be cutting in the 61-80 year
24 age-classes.

25 I'm suggesting to you just because the

1 model predicts that's what will happen if you cut the
2 maximum allowable depletion, does not in any way mean
3 that you're going to get a plan approved that's going
4 to allow you to do that.

5 A. Your question is, what are you going
6 to get approved then, like, what do you substitute then
7 for OWOSFOP if it wouldn't handle that particular
8 scenario.

9 Q. I suggest to you that what would
10 happen is what some of the other witnesses -- well, I
11 suggest to you what would happen is that you would look
12 at the future on your management unit, you would make a
13 determination whether you could retain some older wood,
14 you would look to adjoining management units to see
15 what the age-class structure was there and what kind of
16 supply you might be able to get from there in the
17 future.

18 That's what Mr. Armson said you would do
19 when he gave evidence in Panel No. 3. Do you not agree
20 that that is what you would do, or you could do as
21 opposed to cutting in 61-80 year old stands?

22 A. I guess we run into the problem with
23 the management unit too, where company units are
24 managed on a sustained yield basis and many of the
25 Crown units say they're managed on a sustained yield

1 basis too, it's not clear how this joining together of
2 the wood supply between units really is occurring or
3 whether it really occurs at all.

4 Q. On a sustained yield basis you mean
5 even flow?

6 A. Not quite even flow. I think
7 sustain -- sustaining a level of timber that may not be
8 even flow, it depends what you're starting with, it
9 could increase.

10 Q. If you could obtain the wood supply
11 that was required from adjacent units in the event of a
12 shortfall, a local shortfall, would you be practising
13 sustained yield management, in your view?

14 A. It depends what you're doing to those
15 other two units. Could they afford to meet that
16 shortfall in the one unit, or what's the effect on them
17 going to be.

18 Q. Let's assume that you can also meet
19 the demand from those units as well?

20 A. If that could be done, sure.

21 Q. In that situation you would be
22 practising sustained yield management?

23 A. Yes, if that situation was feasible.

24 Q. Thank you. Do you agree or disagree
25 with the proposition that we started with, that just

1 because the simulation model says that you would be
2 harvesting in the 61-80 year age-class does not mean
3 that you will necessarily be allowed to do that?

4 A. I agree with that, but I have a hard
5 time knowing then, why would you do a management plan
6 that way if you're not going to do it that way.

7 MR. FREIDIN: I would like to file as the
8 next exhibit, Madam Chair, the answers to three
9 interrogatories. The first two are MNR
10 interrogatories, Interrogatories 9 and 52 -- sorry, and
11 OFIA 16.

12 MADAM CHAIR: That will be Exhibit 1655.

13 MR. FREIDIN: (handed)

14 MADAM CHAIR: Thank you. And this is a
15 two-page document, Mr. Freidin?

16 MR. FREIDIN: Yes, Madam Chair.

17 MS. SWENARCHUK: Excuse me. Is this
18 1655, Madam Chair?

19 MADAM CHAIR: Yes, it is.

20 ---EXHIBIT NO. 1655: Two-page document consisting of
21 MNR Interrogatory Nos. 9 and 52
and OFIA Interrogatory No. 16.

22 MR. FREIDIN: Q. So the first
23 interrogatory Nos. 9 and 52 are MNR, and the one on the
24 second page, 16, is OFIA, and it refers to page 9 of
25 your witness statement, if you can turn there, refers

1 to a passage which is reproduced in the interrogatory:

2 "The United States Forest Service has
3 taken the definition of sustained yield
4 one step further and uses non-declining
5 sustained yield where the harvest in any
6 year must be greater than or equal to the
7 harvest for the preceding year."

8 You were asked whether Forests for
9 Tomorrow recommended this definition of sustained yield
10 for Ontario, and the answer was:

11 "Yes, with modification to allow for
12 situations where it is known that older
13 stands would become unmerchantable if not
14 harvested and no detrimental effects to
15 the habitat requirements of all species
16 would occur."

17 And dealing with the first part of that
18 modification, I take it the reference to 'being allowed
19 to harvest stands that could become unmerchantable' is
20 just recognition of what Mr. Marek said; and, that is,
21 from a silvicultural point of view you want to get to
22 those stands and harvest them before they start to
23 break up and turn into an undesirable silvicultural
24 situation?

25 A. If you can't store them on the stump

1 that's an alternative, and if -- and I guess the second
2 part of that --

3 Q. And that's an alternative that you
4 agree with?

5 A. Right, from a timber production point
6 of view.

7 Q. Yes.

8 A. I was just going to add there, if
9 you're considering the wildlife too, then you would
10 want to consider the habitat requirements.

11 Sometimes, from what I understand, I'm
12 not - I don't how I word this - I'm not speaking to the
13 biological end of it, my understanding of it would be
14 that in some of your older stands that do break up, you
15 are creating a certain habitat that can be beneficial
16 to some wildlife.

17 Q. That's right. And would you agree
18 then, again on a management unit by management unit
19 basis, you would have to look at those things and make
20 compromises or tradeoffs, as Mr. Hanna talks about, in
21 consideration of both factors, the timber production
22 possibility and the habitat production possibility?

23 A. Again, I don't like tradeoff
24 directly, but I see what you mean, I think, and
25 certainly you have to consider the different elements

1 involved.

2 Q. You have to decide how you can do
3 your best in achieving both objectives, assuming you
4 have objectives to produce timber and produce habitat?

5 A. Yes.

6 Q. Okay, good. Could we go back to the
7 diagram, can we go to page 28 -- I'm sorry, go to page
8 27.

9 Now, am I correct that this figure shows
10 harvesting in a 61-80 year age-class 85 years in the
11 future, based on a number of assumptions?

12 A. That's correct.

13 Q. Do you agree that one assumption that
14 you made is that there would be a harvest of
15 approximately 97-million cubic metres every five years?

16 A. That's correct.

17 Q. On page 28 of the witness statement
18 you've indicated that if you wanted to avoid harvesting
19 in those age-classes that you could do so by reducing
20 the harvest to approximately 88-million cubic metres a
21 year?

22 A. That's correct.

23 Q. Every five years, I'm sorry.

24 A. Right.

25 Q. And am I correct that you did that by

1 increasing the rotation age from 90 to a hundred --
2 approximately a hundred years?

3 A. In effect that it's what it is. What
4 you're doing really relates back to the curves that I
5 show in Figure 2.1 where it shows the curve that's
6 labeled MAI, the curve with the enclosed white squares.

7 Q. Yes.

8 A. What you're doing is you're picking a
9 level or picking an MAI figure and it can correspond to
10 a particular rotation level, but that's your production
11 level.

12 And what drives it, or what happens is,
13 you're figuring out, well what level of volume can you
14 harvest on a sustainable basis and not cut into a
15 forbidden age-class.

16 Q. Not cut into what...?

17 A. A forbidden age-class.

18 Q. A forbidden age-class.

19 A. Well, I'm just using that term to
20 describe the 61-80 age-classes shown in Figure 2.6.

21 Q. I take it from what you're saying
22 that it's your view that harvesting in the 61-80 year
23 age-class is unacceptable?

24 A. Again, that depends upon the
25 management unit. What I was trying to illustrate in

1 this chapter was the overall example of OWOSFOP and
2 some of the features of OWOSFOP.

3 So for the example, to show what would
4 happen if you couldn't cut in that age-class, well
5 then, what happens to the harvest level; to avoid that,
6 you would have to drop down the long-term sustainable
7 or the sustainable yield level -- well, the long-term
8 sustainable yield level would drop down.

9 Q. I take it from your answer, Mr.
10 Benson, that you would not categorically indicate that
11 it is unacceptable in all circumstances to harvest in a
12 61-80 year age-class?

13 A. It would depend upon the particular
14 species that you're working with, yes.

15 Q. And I think the species that you were
16 using throughout these simulations was spruce; is that
17 not correct?

18 A. It was a spruce working group, right.

19 Q. And I take it from your answer that
20 based on a consideration of a number of factors that
21 harvesting spruce in the 61-80 year age-class could, on
22 some management units, be acceptable?

23 A. It's possible it would be. I wasn't
24 really trying to prove that particular point with the
25 examples here; what I was trying to show, what the

1 effect would be if you couldn't harvest in a certain
2 age-class.

3 Q. Could we turn to the last page, page
4 28 and, again, this is the result of applying the LTSY
5 model, it's not an OWOSFOP produced graph, it's a graph
6 produced as a result of applying the long-term
7 sustained yield approach; is that correct?

8 A. Correct.

9 Q. And am I correct that this figure
10 demonstrates that even with the long-term sustained
11 yield approach to yield regulation you're going to end
12 up with the elimination of the older age-classes; i.e.,
13 and by that I mean age-classes greater than 81 to a
14 hundred years?

15 A. In this example, yes, you would.

16 Q. If you want to maintain old growth,
17 assuming that means trees that were older than that for
18 the purposes of my question, am I correct that you
19 could still use your yield regulation approach and make
20 the special or separate plans to modify the predicted
21 future accordingly?

22 In other words, let's say it predicts
23 you're going to lose old age-classes, with your model
24 you could see that and you could get a separate
25 planning process, or quite separate and apart from your

1 prediction, make plans as to how you're going to
2 preserve that or maintain it?

3 A. Yes. So if we're talking about old
4 growth and trying to main -- keep growing old growth;
5 in other words old growth would grow up and disappear?

6 Q. No.

7 A. And we replace it with old growth.

8 Q. Let's assume that you're concerned
9 about maintaining a certain amount of this working
10 group in the age-class 81 -- greater than 81 to a
11 hundred.

12 A. Okay.

13 Q. You run your model it says, based on
14 whatever assumptions you used, that you're going to
15 eliminate those age-classes about 80 years into the
16 future; right?

17 A. Okay.

18 Q. Now, with that prediction in hand, if
19 you wanted to preserve or maintain some representation
20 of those older age-classes, this model would tell you
21 that you had that problem and you could then decide how
22 you might manipulate things so as to avoid the
23 elimination of those age-classes; correct?

24 A. Yes, you could do that. And in this
25 particular case, if you wanted it older than 81 to a

1 hundred--

2 Q. Yes.

3 A. --well, what you would have to do,
4 because you're eliminating your older age-classes in
5 this case over that 80 -- over 90 years I guess we see
6 the end of 101-120, if you wanted to save some of that
7 into the future and produce more of it, I guess to keep
8 it there, then you would have to lower the level you're
9 harvesting. And that's sort of a case where you're
10 trying to bridge the gap with the older forest.

11 Q. We agree that the wood supply model
12 doesn't affect whether you cut old growth because the
13 wood supply model is just a simulation.

14 A. I'm sorry?

15 Q. In the hypothetical I just gave you,
16 this wood supply model -- we can use this wood supply
17 model and still be managing for old growth, if in fact
18 that was your desire?

19 A. Yes, that's right.

20 Q. All right. And would you say that
21 the same would, therefore, apply if you were using the
22 OWOSFOP wood supply simulation model?

23 A. Could you input data into the OWOSFOP
24 model then to make it achieve the same result?

25 Q. No. You've told me that you could

1 use your LTSY model and still manage for old growth?

2 A. All right.

3 Q. And I'm suggesting to you that you
4 could use an OWOSFOP model and it does not adversely
5 affect your ability to manage for old growth if that's
6 what you want to do, that's there's no relationship,
7 that the wood supply model you use doesn't affect your
8 ability to manage for old growth one way or the other?

9 A. In the OWOSFOP model, if you use a
10 rotation high enough to retain old growth to make sure
11 you're going to have old growth, you could run it that
12 way.

13 Q. Right. Or if in fact -- right, and
14 you may want to do that using the OWOSFOP model. If in
15 fact you ran your OWOSFOP model with certain
16 assumptions and it showed you what in fact -- well, it
17 showed you that you were going to eliminate those
18 age-classes, the OWOSFOP model would allow you to rerun
19 the model with different assumptions so that you could
20 end up with some representation of those older
21 age-classes; is that correct?

22 A. You lost me there in the transition
23 between the LTSY model and the OWOSFOP model. I didn't
24 see -- hear what you were taking from one to the other.

25 Q. That an OWOSFOP model deals with

1 area; correct?

2 A. As a primary base for determining
3 allowable cut, right.

4 Q. If in fact the simulation of the
5 future which is generated by running your OWOSFOP model
6 indicates that you're going to be eliminating those
7 older age-classes--

8 A. Okay.

9 Q. --let's assume that, do you agree
10 that you could use the OWOSFOP model to assist you in
11 determining how you might go about changing what
12 happens on the management unit in order to maintain or
13 preserve some of that older growth?

14 A. You could, but it really would be
15 unnecessary if you're working with the one model, it
16 should -- you should be able to tell from it too.

17 Q. What do you mean by that?

18 A. If you're using the LTSY model, it
19 should be able to tell you too what the particular
20 problems are so that you can change it.

21 Q. So you can do the same thing with
22 both models when we're talking about dealing with this
23 old growth issue?

24 A. You could. And you can do it a third
25 way too, just to treat the old growth as a separate

1 working group.

2 Q. Sure.

3 A. Subsection of a working group.

4 MR. FREIDIN: I think that's a good
5 place end, Madam Chair.

6 MADAM CHAIR: Thank you, Mr. Freidin, Mr.
7 Benson,

8 THE WITNESS: Thank you.

9 MADAM CHAIR: We're starting at 9:30
10 tomorrow morning.

11 MR. CASSIDY: Will we be sitting until
12 four or 4:30 because of the scoping session?

13 MADAM CHAIR: I think we have the scoping
14 session at four o'clock, so we won't change that for
15 the people who aren't here.

16 ---Whereupon the hearing adjourned at 4:05 p.m., to be
17 reconvened on Wednesday, January 16th, 1991,
commencing at 9:30 a.m.

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25 [c. copyright, 1985.]

